Appendix C

Biological Resource Reports for
Generations at Green Valley

California Tree and Landscape Consulting, Inc.

Amended Arborist Report

May 14, 2024

Mr. Aidan Barry, Executive Vice President
TTLC Management, Inc
110 Blue Ravine Road, Suite 209
Folsom, CA 95630

c/o Jaren Nuzman

Work location:

Green Valley Road Site and Off-Site Improvements
El Dorado County, CA 95682

Arborist Report for Oak Woodland Resources
For Project Development

APN:
126-150-023
126-020-003
126-020-001
126-020-002
126-020-004
Off-Site Improvements

Prepared by:
Gordon Mann, Consulting Arborist

Summary

The property is an approximately 288-acre parcel with proposed single-family residences, and 13 acres of off-site work. The property is bordered by smaller developed parcels on the west and southwest sides, larger single family parcels to the southeast, east, and north, and open space to the west. The property contains 2 ponds, oak woodland, and individual oak trees on pastureland. The biologists Madrone Ecological Consulting supporting the project confirmed the oak woodland and individual oak tree determinations. There are also off-site improvements that were added to the project area increasing the total area of the project to 301 acres (this includes the offsite infrastructure areas)., and a total of 110.9 acres of oak woodland. The breakout is 109.4 acres of oak woodland within the 288-acre onsite development and 1.5 acres in the 13-acre offsite infrastructure study area.

There are 109.4 acres of Oak Woodland on the site combined with 1.5 acres of oak woodland offsite for a total of 110.9acres of total oak woodland impact. A total of 56.0 acres of oak woodland is proposed to be impacted by the project. The oak woodland mitigation is based on 110.9acres of oak woodland and 56.0 acres of oak impact for a oak woodland impact [percent of 50.5%. There are a combination of 28 individual oak trees proposed to be removed and the total diameter inches for mitigation is 657 inches. There are 13 Heritage Trees in Fair or better condition proposed for removal with total diameter inches for mitigation of 572 inches.

The project is located south of Green Valley Road across from Malcolm Dixon Road, west of Marden Road, north of East Green Springs Road and east of Aberdeen Lane. The project design retains some open space on the northwest and southwest corners, and open space and parks in the northeasterly portion of the property. The oak woodland on the site was determined to cover 109.4 acres, 38.0% of the site.

The project also requires off-site work that was not included in the original site designs. The off-site impacts of the project were requested for analysis on November 29, 2023. The actual areas of impact and final design were not confirmed to provide the information necessary to calculate the actual amount of impact to the oak woodland and individual oak trees. The impacts referred to in this amended report are the maximum potential impacts to the total off-site areas, and most likely will be able to be reduced once the final designs are completed and we can verify the impacts that will occur. The oak woodland in the offsite is proposed at 100% impact until the designs are completed.

The additional off-site improvements to the project were added that were not covered in the initial Oak Resources Impact Report prepared on November 22, 2022 for the project assessment. The additional locations are covered in this addendum report. The off-site locations were visited on January 26th and February 6th, 2024 by Nicole Harrison, ISA Certified Arborist #WE-6500AM, and April 23, and April 26, 2024 by Gordon Mann, ISA Certified Arborist #WE-0151AM. All of the locations of the off-site improvements as identified on the Off Site Sewer and Water APE Exhibit prepared by CTA Engineering & Surveying dated November 2023; and the Onsite GVR APE Limit (Expanded APE), also by CTA were visited.

The areas included in the offsite assessment:

a) Green Valley Rd at Parcel 126-150-015: The construction is in the roadway and no off-site oak trees or oak woodland will be impacted by this proposed construction. No mitigation proposed.

b) Green Valley Rd at Parcel 126-150-016: No additional impacted oak trees. No mitigation proposed.
c) Green Valley Rd at Parcel 126-150-021: 1 additional individual tree is present but unlikely to be impacted..
d) North side of Green Valley Rd at Parcels 126-091-040; 102-190-027; 102-190-010; 102-190-011: Potential Heritage Tree additional impacts, 89 inches. $40,851 mitigation proposed until final design is completed.
e) South side of Green Valley Rd at Parcel 115-051-011: 1 additional individual tree is present, 19”, but unlikely to be impacted. 100% mitigation proposed, $2,907 until final design is completed.
f) Marden Drive: The woodland impact area included in the 1.5 acres.
g) Lima Way Connection: No additional trees along either side of the existing road are protected oaks. No mitigation proposed.
h) Green Springs Road (at parcel 126-231-007): Tree 999 is added to the individual tree removal list. It is a 20” Interior Live Oak. 20” x $153 = $3,060 additional mitigation proposed.
i) E. Green Springs: The woodland impact area included in the 1.5 acres..
j) S Loch Way at Highland St: The woodland impact area included in the 1.5 acres..
k) Loch Way: The woodland impact area included in the 1.5 acres..
l) Woodland beneath SMUD area: The woodland impact area included in the 1.5 acres..
m) Green Valley Road: The woodland impact area included in the 1.5 acres..
n) Highland Hills Lift Station: The woodland impact area included in the 1.5 acres.
o) St. Andrews Lift Station: No additional impacts. No mitigation proposed.
p) Silva Valley Parkway from the project connection to the existing system W. Glenmore to Harvard Way: No additional impacts. No mitigation proposed.

The total acreage of oak woodland impact from the off-site work is 1.5 acres, 52,272 square feet. There are 2 individual trees totaling 39 inches and 2 Heritage Trees totaling 89 inches that will be impacted at the 100% assessment level.

The percentage of off-site oak woodland acreage compared to the overall site was challenging to total due to the mileage of roadways and pathways and the linear coverage. The percentage of oak woodland for the areas being removed was considered 100% because the design was not completed to show less impact.

Therefore, when considering the mitigation ratio for calculations, the combination of the proposed oak impact on site of 54.5 acres at 49.8%, and 100% of the oak woodland in the offsite, the ratio for oak mitigation was calculated at the 1.5 times ratio.

Mitigation for the project is based on the combination of the onsite and off-site oak woodland impacts. The total mitigation is based on the removal of 54.5 acres of oak woodland on the site combined with 1.5 acres of off-site woodland, is 56.0 acres calculated at a 1.5:1 ratio, at the cost of $8,285 per acre. The total onsite adjusted acreage is increased to 84.0 total acres.

The total oak mitigation amounts to: 84 acres at $8,285 per acre ($695,940.00), 657 total diameter inches for 28 individual trees at a cost of $153 per inch ($100,521.00), and 572 inches for 13 Heritage Trees at a cost of $459 per inch ($262,548.00)

The total necessary mitigation for the project is $1,059,009.00.

The alternative option for the $1,059,009.00 oak woodland mitigation fee is to either provide equivalent dedicated acreage of oak woodland or plant trees on equivalent dedicated acreage with the necessary monitoring, or a blend of providing dedicated acreage or planting dedicated oak woodland acreage including monitoring and pay any acreage balance difference with mitigation fees.

Assignment

The subject property is a 288-acre parcel with a proposed development for roads, single-family homes, open space, a park, and a clubhouse as components of the project. There are oak woodland, individual oak trees, and Heritage trees that will be impacted or removed by the proposed development.

The client contacted our office on January 17, 2021, provided a site plan, and requested we provide an inspection and report required to satisfy the County of El Dorado's Oak Woodland Resources, determining the oak woodland area, identifying all native oak trees in the woodland area 24 inches in diameter and greater, all Heritage Trees 36 inches in diameter and greater, and any individual oak trees 6 inches and greater located outside of the woodland designation for tree removal and will need mitigation based on the County ORMP Oak Resources requirements and Ordinance No. 5061. We provided a proposal that was accepted and this report is the result of the onsite inspection performed on February 22, 23, and March 4 and 5, 2021, and the use of aerial imagery.

Assignment limits

The Oak canopy was calculated based on Madrone Ecological Consulting's oak woodland assessment and mitigation summary dated January 8, 2020 (image in Appendix A). All the trees in the inventory were observed and verified while standing on the ground. Data collected is limited to a visual ground inspection. Ground inspections and measurements were used to ensure the accuracy of the inspection data.

Current Existing Tree Status (general)

The site is a polygon shaped parcel lot with a triangle on the northeast upper right area on top of a rectangle. The development is required to comply with the El Dorado County ORMP Oak Resources requirements and Ordinance No. 5061.

The site was inspected on February 22 and 23, and March 4 and 5, 2021 by Cathie Bown, ISA Certified Arborist #WE 13086A, Cory Kinley, ISA Certified Arborist 9717A, Dave Mercado, ISA Certified Arborist 7311A, and Gordon Mann, ISA Certified Arborist #WE-0151AM, using 2, 3, and 4-person crews. The site is existing oak woodland, pasture with individual oaks, and 2 ponds, with cattle grazing. The trees in the oak woodland and the individual oak trees as laid out by the team biologist were inspected. Individual oak trees were captured if six inches diameter and larger, or multi-stem individual oak trees 10" diameter or larger. Oak woodland trees were captured that were 24 inches diameter and larger. A total of 659 oak trees were captured. The primary species are Blue Oak (*Quercus douglasii*), 464, and Interior Live Oak (*Quercus wislizenii*), 180. There were six Valley Oak (*Quercus lobata*) 3 Oracle Oaks (*Quercus x morehus*), 2 Black Oak (*Quercus kelloggii*), and 4 other non-protected species. No individual or Heritage Valley Oak trees or Valley Oaks in the oak woodland areas were found to be impacted. There are twenty-six (26) individual Oak trees to be

impacted, and eleven (11) Heritage trees to be impacted. There are 54.2 acres of Oak woodland to be impacted.

The oak woodland on the site was identified by the biologist team and found to be 109.4 acres, 38.0% of the 288 acre site. The proposed oak woodland impact for the onsite area of this property will be 54.5 acres of the existing 109.4 acre oak woodland, or 49.8% of the oak woodland.

There were sixteen off-site areas (shown on the map in the appendix) added that may be impacted by the off-site utility improvements to make the project successful. The final design and total impacts of the off-site locations were not available at the time of the site inspections, and the actual impacts could not be determined. The oak impacts are proposed at 100% of the impacts, and the actual total oak impacts will be determined once the designs are completed. The final impacts may be a lesser amount that may revise the total oak woodland, individual tree, and Heritage Tree impacts for the off-site work and may reduce the impacts for the entire project. The total oak woodland acreage of the off-site areas is 1.5 acres of 100% oak woodland impact for a total oak woodland impact of 56.0 acres, amounting to a total oak woodland impact of the 110.9 acres, equaling of 50.5% total oak woodland impact.

Technical Recommendations

It is recommended that all tree care follow specifications written in accordance with ANSI A-300 standards. Pruning of the trees should be performed in the outer portion of the canopy to reduce leverage and end weights and allow the center of the canopies to grow and fill in with foliage. It is also recommended that when root pruning, the smallest size roots as possible be pruned, cuts be performed with handsaws, loppers, or chainsaws appropriate for the size of the root being cut. The roots should be exposed by excavating prior to cutting. Roots should be pruned prior to root removal within the tree protection area to limit the damage and tearing of roots back towards the tree. Root pruning should be overseen by a qualified arborist.

Tree protection for individual trees and groves or clusters of trees can be achieved by placing a fence along the outside edge of the tree canopies before any clearing, grubbing, or construction is started. The tree protection shall be written on the construction plans so the workers are aware of the tree protection zone.

The proposed Firewise Fuel Modification is necessary to provide the fire protection for development in and near oak woodland areas. The proposed fuel modification pruning treatments are in alignment with the Firewise protocols. The intended modification treatments will reduce the fire potential while retaining the approximate oak woodland canopy cover without removing large trees. The pruning and low clearance required for the treatments will have minimal impact to the overall oak woodland canopy cover and will not impact the oak woodland acreage as the trees are retained on site. No mitigation should be required for the pruning treatments.

The fuel modification plan for the property is described for the open space areas and spaces along the general project development. Because individual homes designs are not provided, the individual home Firewise practices will be provided when the home designs are proposed for building permits.

Tree planting should follow the specifications included in Appendix A.

General Tree Care and Maintenance

The appendix information is given so that an onsite landscape manager can properly take care of the retained trees, and newly planted trees. Established native oak trees do not like to have the base of the trunk or their roots and the surrounding soil disturbed or tampered with. Applying or having unintentional landscape water in the root zone can cause catastrophic and negative affects to most species of native oak trees. Newly planted oak trees do need their root balls watered until established and then may need supplemental watering during extended periods of dry or hot weather. It is, therefore, recommended that the landscape be designed using drought tolerant plants that will require little to no watering after establishment. Irrigation should be delivered using an on-surface drip type system that does not require trenching around the oak trees to install. The plants should be spaced at least 6 feet away from the trunk of native oak trees, and the drainage from irrigation should be managed so water does not flow to the trunks of the oak trees. Trees that are growing in high use areas should be inspected by a qualified arborist for tree risk on a routine basis, the frequency depending on site use and tree condition.

Observations

The site was inspected on February 22, 23, and March 4 and 5, 2021. Cathie Bown, ISA Certified Arborist #WE 13086A, Cory Kinley, ISA Certified Arborist 9717A, Dave Mercado, ISA Certified Arborist 7311A, and Gordon Mann, ISA Certified Arborist #WE-0151AM inspected the trees and verified the canopy. The trees 24 inches diameter and greater in the oak woodland and all individual oak trees were tagged and measured. There were 601 trees 24 inches in diameter or greater on site, 129 of these are Heritage Trees, 36 inches in diameter and greater, and 54 individual trees greater than 6 inches diameter less than 24 inches in size (and 4 non-protected oaks captured) growing on the site.

The 16 off-site locations were visited on January 26th and February 6th, 2024 by Nicole Harrison, ISA Certified Arborist #WE-6500AM, and April 23, and April 26, 2024 by Gordon Mann, ISA Certified Arborist #WE-0151AM. There were 1.85 acres of total oak woodland for the several sites, 39 diameter inches of individual oak trees, and 89 diameter inches of Heritage Trees.

Individual trees 6 inches diameter or greater or multi-stem trees 10 inches diameter or greater and the trees growing in the oak woodland 24 inches in diameter or greater were numbered, measured for diameter, assessed for condition, the number of stems present, and notes explaining the tree characteristics affecting condition were recorded. The tree data is shown in the attached 36-page Generations Tree List. The impacted trees are shown in Appendix 2 Individual and Heritage Tree Lists. The off-site trees were added to the original list.

The tree condition rating is a combination of vigor, structure, trunk, branches, trunk flare, live tissue, and defects and decay or pests. It is described in % and range term. The rating scale is:

Range	# Rating	Description
Excellent	81-100	Found to have none to few defects or decay, and high vigor
Good	61-80	Found to have few defects or decay, and above average vigor
Fair	41-60	Found to have mitigatable defects, limited decay, and average vigor
Poor	21-40	Found to have significant defects, decay, and lower vigor
Very poor	1-20	Found to have significant defects, decay, and low declining vigor
Dead	0	Found to be dead

Diameter at Breast Height (DBH) is the industry standard for measuring trunk diameter. For trees with straight trunks and normal taper, the measurement is taken at 4.5 feet above grade. When a swollen area, flare from branching, multiple stems, or other abnormal growth is present, the diameter at 4.5 feet would not be characteristic of the subject tree. Therefore, the measurement is taken at the most appropriate location for determining the reasonable trunk diameter, and the height the measurement was taken is listed with the diameter measurement if not at 4.5 feet. For trees found 24 inches or greater the accurate measurement was taken with a diameter tape to confirm the size. The County requires mitigation for trees 36” diameter and greater, in fair or better condition of Heritage Trees.

Other testing or examination:

No additional testing or examination was requested at the time of the inspection or found necessary.

Discussion:

The project site is approximately 288 acres and contains oak woodland, pastures and individual oak trees, and 2 ponds. The adjacent properties range from smaller lot single family homes, larger lot single family homes, and oak woodland open space. The development proposes 379 single-family lots and is bordered by a small sized single-family lots to the west and southwest. There are larger single family lots on the south, east, and north sides of the property.

The oak trees on the property around the proposed construction and development were inspected. The site plan was reviewed to identify those trees that are close to the development needing protection and those trees that will be impacted by the proposed development. There were 54 individual oak trees smaller than 24 inches diameter outside of the oak woodland. There are 26 individual oak trees that will be impacted by the project, for a total of 618 diameter inches. There were 129 Heritage Trees included in the inspection and 11 will be impacted by the construction, with for a total of 483 diameter inches. All oak woodland canopy around the development area was evaluated for mitigation requirements. The oak woodland to the east and west of the property are not impacted and only the edge trees were included in the inspection and assessment.

The El Dorado County Oak Resource Mitigation calculation is based on the area of oak woodland impacted, the percent of oak woodland being impacted, the individual oak trees growing outside of oak woodland being impacted, and Heritage Trees both in oak woodlands and individual trees being impacted. The total property area is approximately 12,545,280 square feet or 288 acres. The total oak woodland on the property is 4,765,464 square feet or 109.4 acres. The oak woodland coverage is 38. % of the total site area.

The total oak woodland proposed for removal and impact for the project is 2,374,020 square feet or 54.5 acres. The total amount of oak woodland impacted by the development is 49.8%. The Oak Woodland Mitigation Ratio is determined by the amount of existing Oak Woodland canopy being impacted.

The total acreage of oak woodland impact from the off-site work is 1.5 acres, 65,340 square feet. There are 2 individual trees totaling 39 inches and 2 Heritage Trees totaling 89 inches that will be impacted at the 100% assessment level. The percent of oak woodland impact was considered at the 100% level until the final design is completed. This additional impact has increased the total project impact to above 50% and the 1.5:1 ratio has been used in the calculations. The mitigation acreage of the offsite areas at the 1.5 ratio are 2.25 acres.

The project calculations for oak woodland were adjusted for the 1.5:1 ratio. The total oak mitigation of 56 acres amounts to: 84 acres. The individual oak trees total 657 diameter inches for 28 individual trees. The Heritage Trees total 572 inches for 13 Heritage Trees.

The mitigation ratio chart for El Dorado County ORMP is:

Percent of Oak Woodland Impact	Oak Woodland Mitigation Ratio
0-50%	1:1
50.1 – 75%	1.5:1
75.1-100%	2:1

The proposed total project oak woodland impact of greater than 50% falls into the Oak Woodland Impact range of 0-50%. The proposed oak woodland impact requires a 1.5:1 mitigation ratio.

Mitigation – Individual Native Oak Tree/Heritage Tree Removal. If Individual Native Oak Trees, including Heritage Trees, will be impacted as part of the permit, the applicant shall mitigate for loss of individual tree(s) by one or more of the following options as specified in the ORMP:

a. In-lieu Fee payment for individual oak tree removal to be either used by the County to plant oak trees or to be given by the County to a land conservation organization to plant oak trees as shown in Table 6 (Individual Oak Tree In-Lieu Fee) in the ORMP;

b. Replacement planting on-site consistent with Section 2.4 (Replacement Planting Guidelines) of the ORMP within an area subject to a Deed Restriction or Conservation Easement and utilizing the replacement tree sizes and quantities shown in Table 4 (Oak Tree Replacement Quantities) in the ORMP. On-site replacement planting shall be consistent with Section 2.4 (Replacement Planting Guidelines) of the ORMP;

c. Replacement planting off-site within an area subject to a Conservation Easement or acquisition in fee title by a land conservation organization utilizing the replanting sizes and quantities specified in Table 4 (Oak Tree Replacement Quantities) in the ORMP. Off-site replacement planting shall be consistent with Section 2.4 (Replacement Planting Guidelines) of the ORMP; or
d. A combination of options a through c above.

The proposed onsite 56 acres of total impacted acres of oak woodland at the 1.5 ratio will require mitigation equivalent acreage of onsite or off site planting and oak woodland deed restrictions, or an in lieu payment of $8,285.00 per acre for 84 aces with a maximum mitigation fee of $694,940.00.

There were 28 impacted individual oak trees, 657 diameter inches, and required individual oak tree mitigation of $100,521.00.

There were 13 impacted Heritage Trees in Fair or better condition, 572 diameter inches and the required Heritage Tree mitigation of $262,548.

The total mitigation fee for the proposed project will be $1,059,009.00. The fee may be adjusted by either oak woodland acreage planted onsite, or onsite or off site dedicated oak woodland acreage.

The oak woodland mitigation requirements for the project was calculated based on the following information:

Total area of the project area: 13,111,560 square feet, or 288 acres (Offsite acreage 13).
Total area of oak woodland: 4,830,804 square feet, or 110.9 acres
Total percent of existing oak woodland: 37.3.0%
Total area of total oak woodland to be removed: 2,439,360 square feet, or 56.0 acres
Total percent of oak woodland to be removed: 50.5%
Oak Woodland Mitigation Ratio: 1.5:1
Oak woodland area of sick/dying trees exempt from mitigation 0 square feet or 0 acres
Total area of Oak Woodland to be mitigated: 2,441,538 square feet, or 56.0 acres at the 1.5 ratio = 84 acres at $8,285, $695,940.00
Total number and diameter inches of individual oak trees to be removed: 28 trees, 657 diameter inches: $100,521.00
Total number and diameter inches of Heritage Trees to be removed: 13 trees, 572 diameter inches: $262,548.00
Total area of pre-mitigated oak canopy to be removed: 0 sq. ft.
Total area of oak canopy required to be mitigated: 2,441,538 square feet, or 56.0 acres x 1.5 ratio = 84.0
Total Oak Woodland Area Impacted Mitigation: 84.0 acres @ $8,285 per acre = $695,940.00
Individual Oak tree Impacted Mitigation: 28 trees, 657 inches, $153 per inch: $100,521.00
Heritage Tree Impacted Mitigation: 13 trees, 572 inches, $459 per inch: $262,548.00

Total Amount of Oak Resource Mitigation: $1,059,009.00

With the proposed mitigation of in lieu payments for individual oak trees and Heritage trees, and the options for dedicated oak woodland acreage or payment of the in lieu fees, the proposed project is in compliance with the Ordinance 5061, Oak Resources Conservation.

The project is in compliance with General Plan Policy 7.4.5.2 by preserving native oaks wherever possible on the site. There are areas of oak woodland or oak corridors in this development in areas retained as natural open space areas on the west side and north side of the project. This report also provides information how trees in the vicinity of the project or construction site will be protected and by following approved preservation methods specified in the County's required mitigation measures.

It has been determined that the proposed project would result in less than significant impacts to oak woodland resources with incorporation of mitigation measures listed below.

For long term maintenance and the changes in site use, some pruning should be performed to larger trees close to the proposed structures and rear yard areas. For Firewise management, trees should be pruned for clearance and elevate low branches and break ladders. The pruning should be performed to remove large dead branches, shorten and reduce end weights which reduces the risk of branch failure. The Firewise clearance pruning will elevate trees and remove low bushes and separate crown ladders. The pruning will have overall minimum impact on the total site oak woodland acreage as the trees are being retained when pruned.

Conclusion:

The proposed single-family home project will impact the existing oak woodland. Per the El Dorado County Oak Resources Conservation Ordinance mitigation will be required for 1 of the three potential 3 impacts:

1. Oak woodland is proposed to be impacted. There are 56.0 acres of Oak Woodland proposed to be impacted, and this is greater than 50% of the total oak woodland area due to the proposed 100% of the off-site project work. The mitigation ratio is 1.5:1 times the acreage impacted, equaling 84.0 acres of oak woodland mitigation required. The option is to dedicate existing oak woodland or plant oak woodland onsite or off site in equal acreage, or pay the in lieu fee for the 84. acres at $8,285 per acre to a maximum amount of $695,940.00 in mitigation fees. A combination of oak woodland dedication onsite or offsite and in lieu fee payment will also satisfy this requirement.

2. There are 28 individual oak trees proposed to be impacted with 657 total inches of diameter. The cost for mitigation is $153 per inch. The cost of the 28 trees is $100,521.00 in mitigation fees.

3. There are 13 Heritage Trees, trees with a single, or multiple combined, trunk diameter of 36 inches or greater, in fair and better condition, proposed to be impacted with 572 total inches of diameter. The cost for mitigation is $459 per inch. The cost of the 13 trees is $262,548.00.

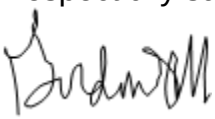
The required mitigation fee for individual oak trees and Heritage trees is $363,069. The oak woodland acreage can either be planted onsite or off site dedicated oak woodland acreage, or an in lieu payment of $695,940.00. The applicant requests to retain the option to blend the oak woodland acreage dedication or in lieu payments up to a total mitigation cost of $1,059,009.00.

The mitigation proposed will meet the required mitigation based on the El Dorado County ORMP Oak Resources requirements and Ordinance No. 5061.

Please contact Gordon Mann of California Tree and Landscape Consulting, Inc., if there are any questions about this report.

Disclaimer: Gordon Mann, has analyzed the situation, applied the proper method(s) utilized within the profession, and performed a reasonableness test to support the project tree related decisions. I, nor the employees or subcontractors of California Tree and Landscape Consulting, Inc., may be held liable for the misuse or misinterpretation of this report. As the author of this report, I do hereby certify that all the statements of fact in this report are true, complete, and correct to the best of my knowledge and belief, and that they are made in good faith.

Respectfully submitted,



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ISA TRAQ Qualified Tree Risk Assessor
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Gordon@caltlc.com
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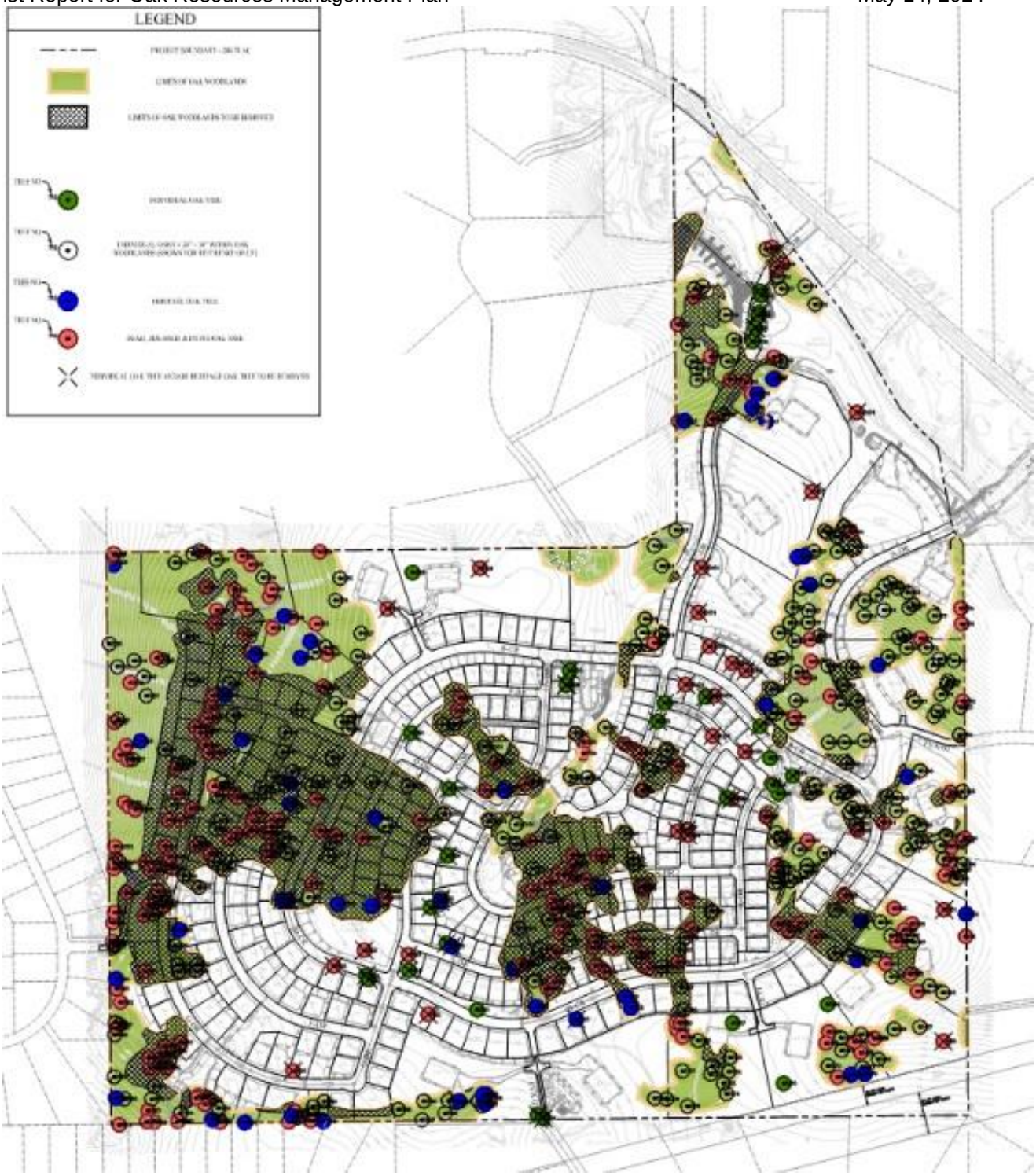
Appendix A Onsite Images
Appendix B Off-site Images

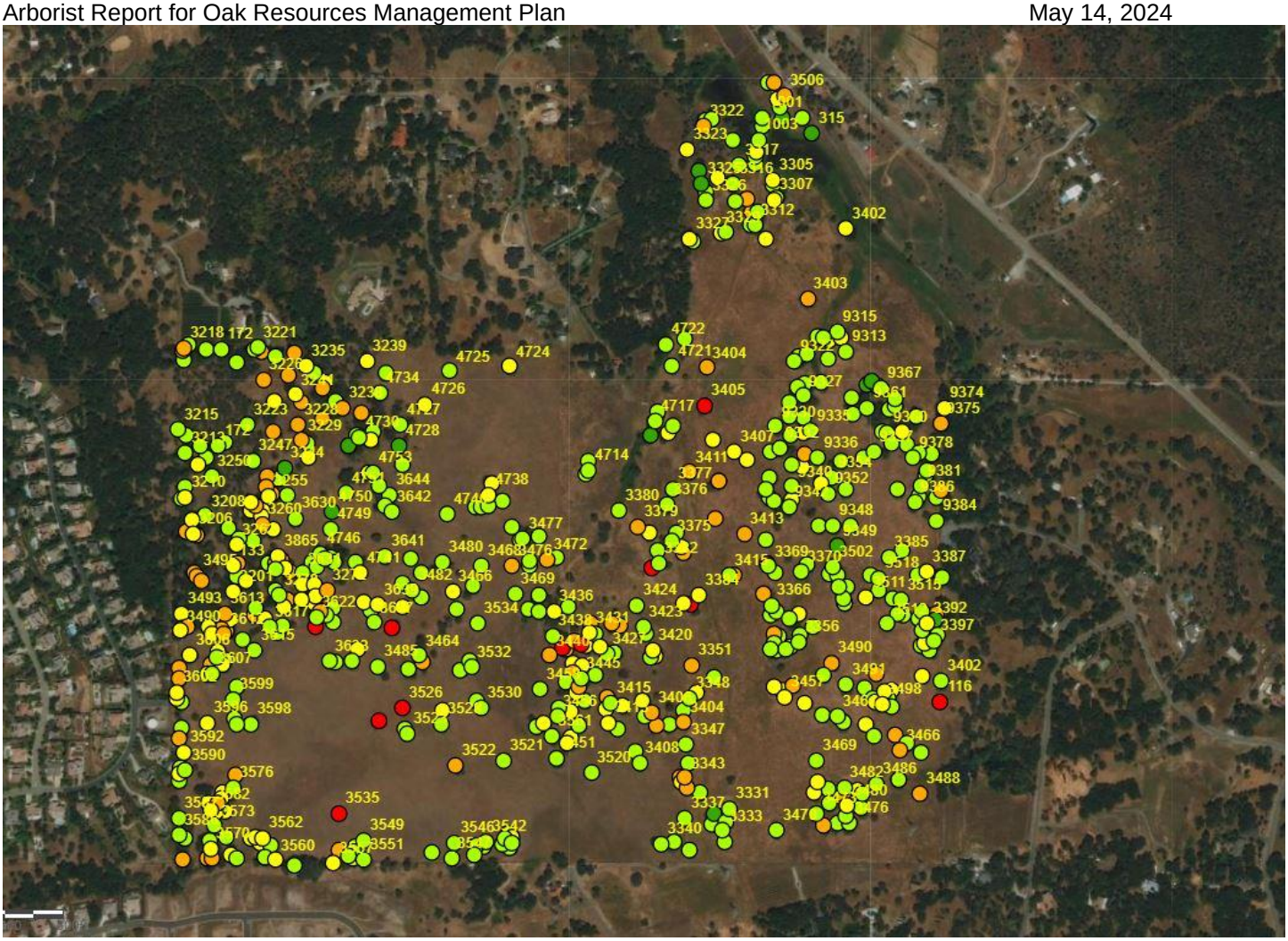
Appendix B Tree Lists for Heritage and Individual Tree Removals
Appendix C General Tree Protection
Appendix D Long Term Landscape Maintenance Plan and Specifications
Appendix E Avoiding Damage During Construction
Appendix F Tree Planting Specifications
Disclosure, Limitations, Resume for Gordon Mann, Certificate of Performance

Appendix A Images

Madrone's Oak Woodland and Individual Oak Tree Onsite Survey

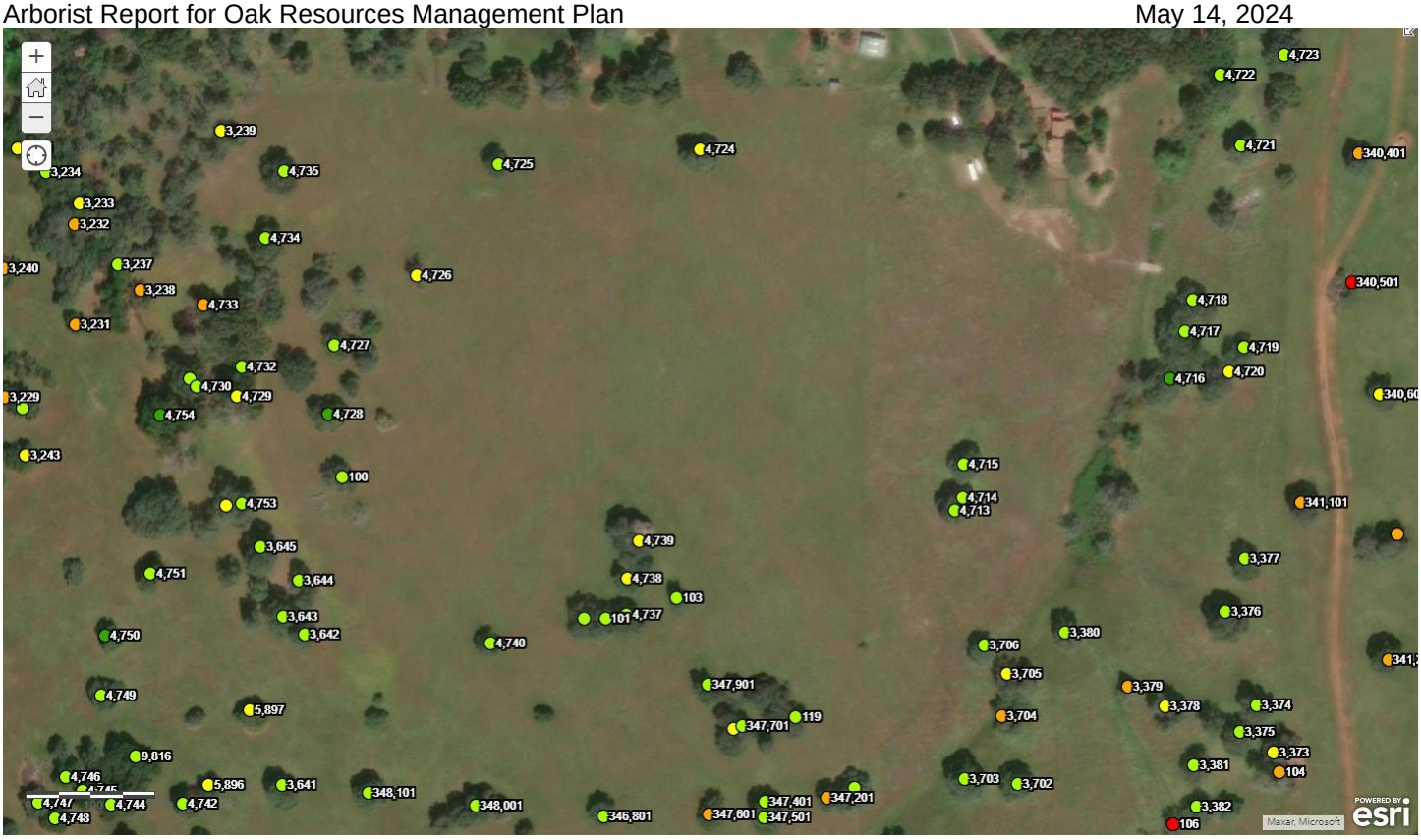


Onsite site plan image with trees inspected for the project
Oak woodland light green,
proposed removals within oak woodland hashed/dark green,
Individual Oaks to be removed x's



Aerial showing onsite tree numbers in approximate locations

8 Aerial images with onsite tree numbers in approximate locations enlarged: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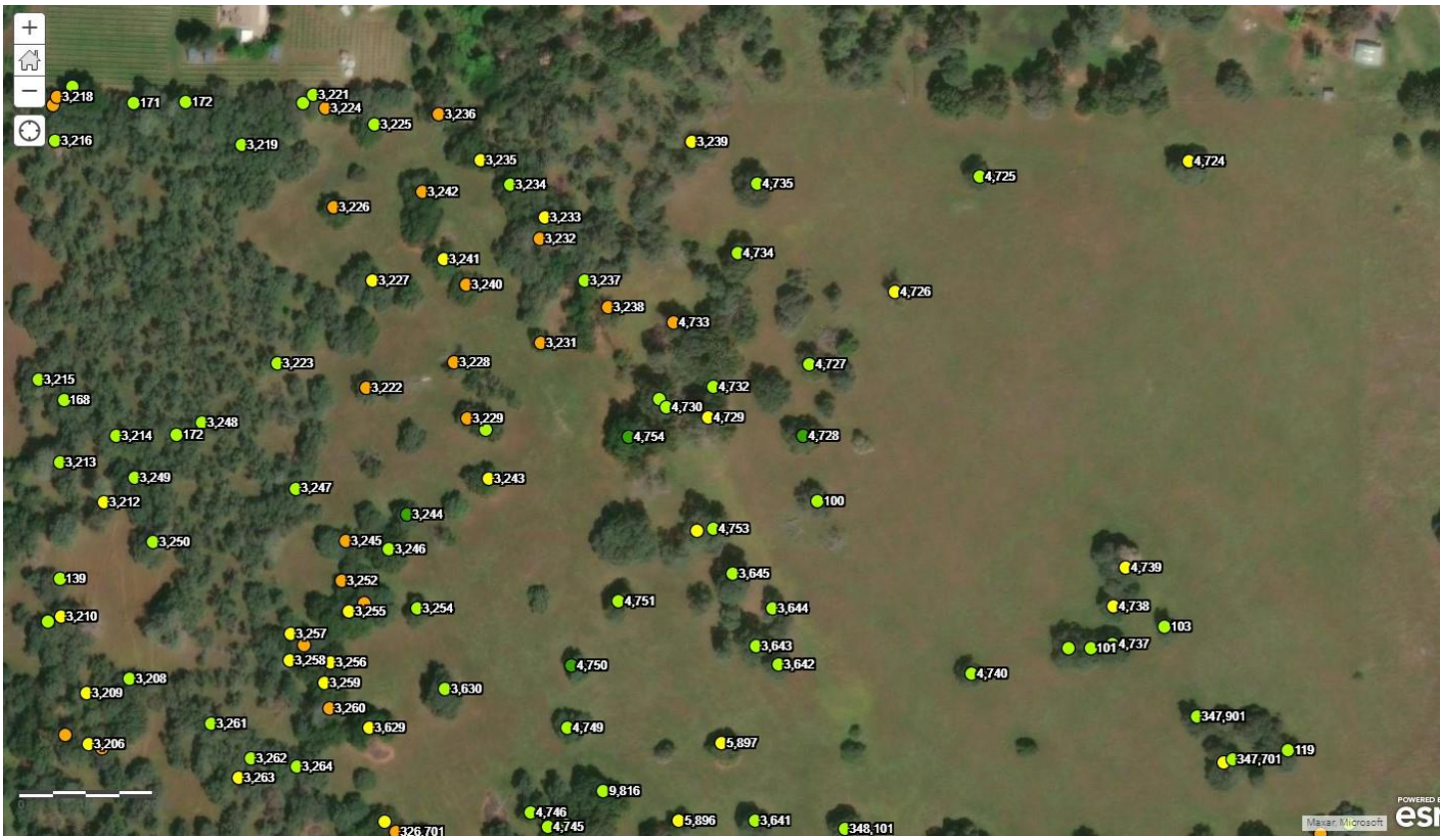
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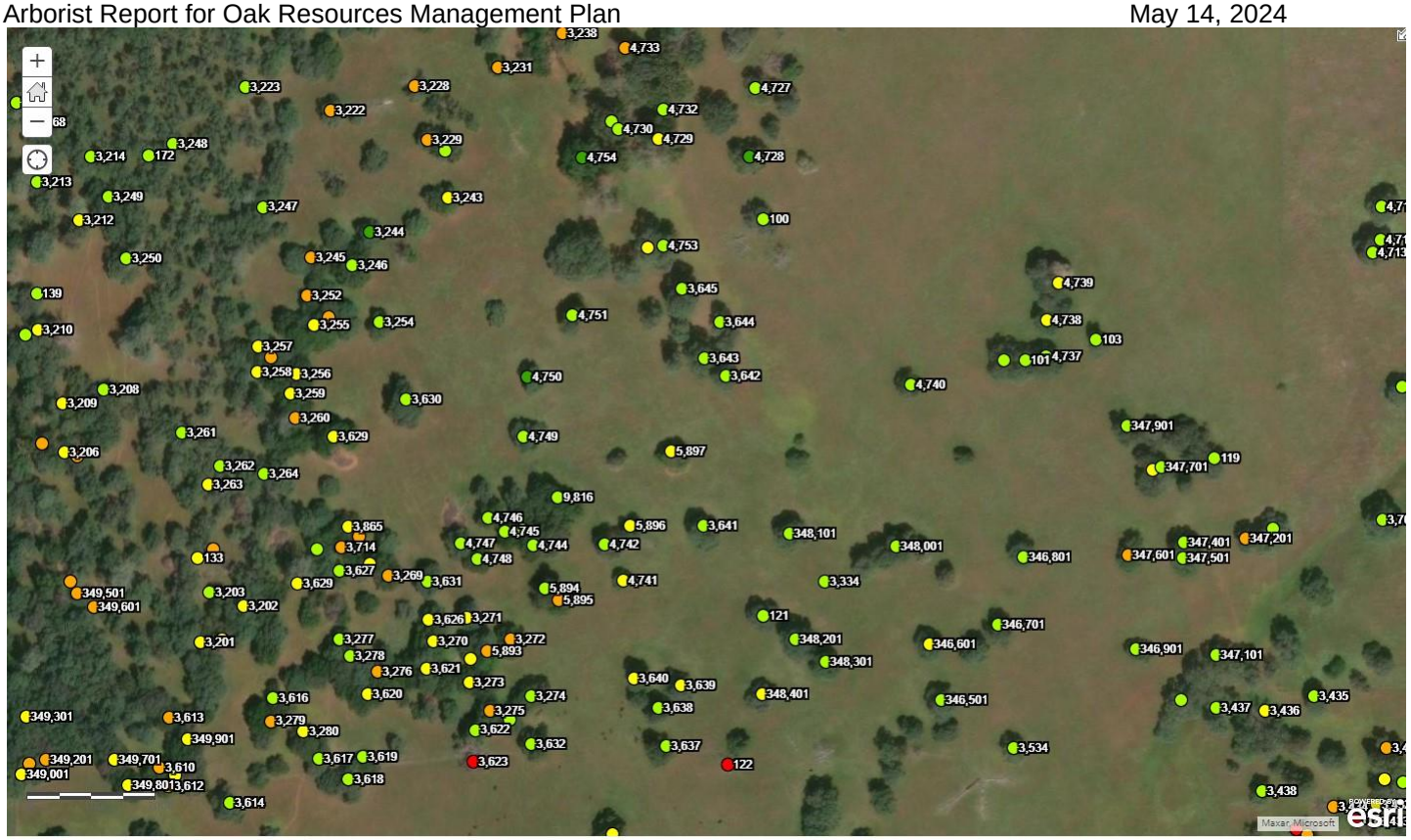
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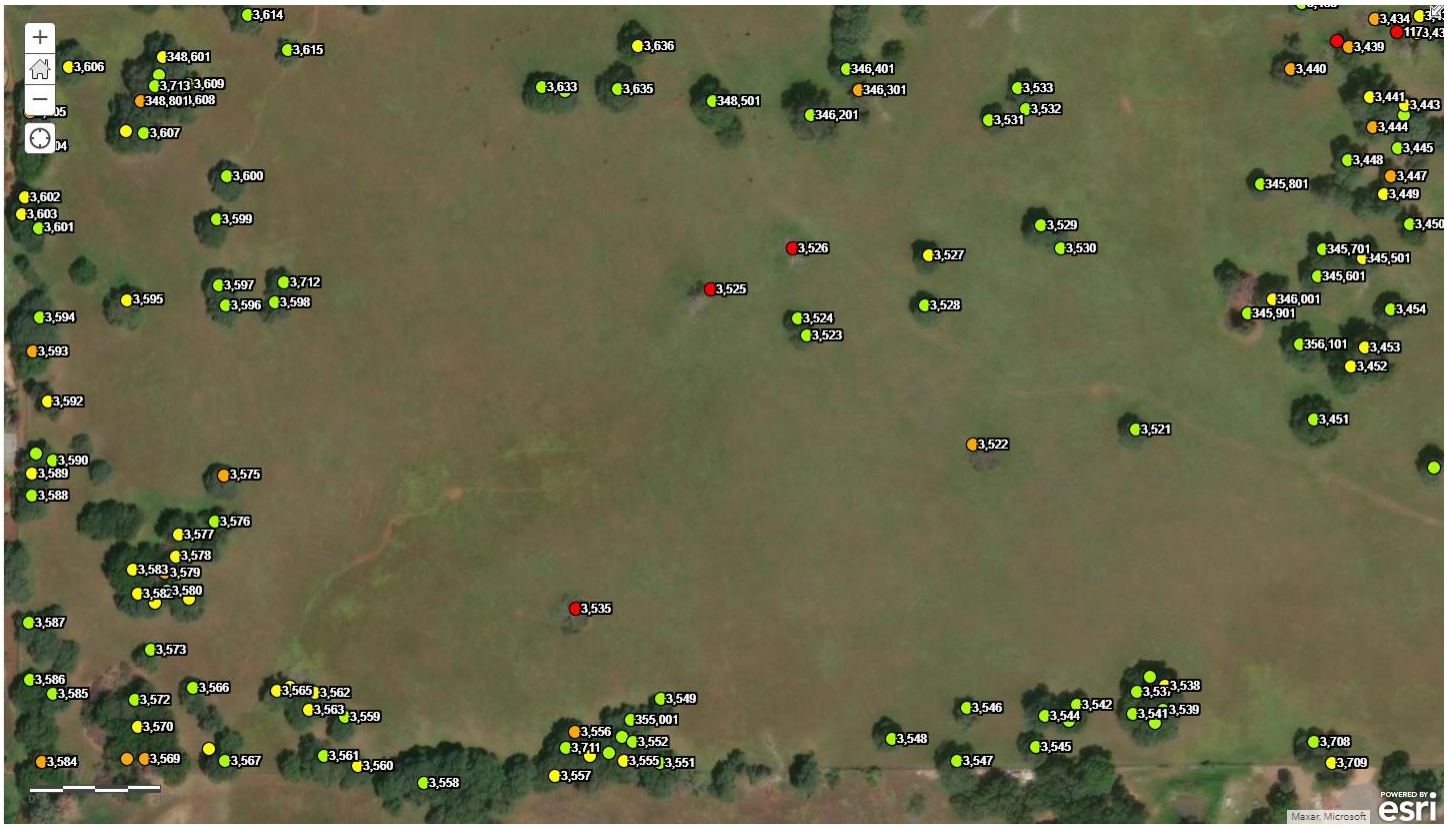
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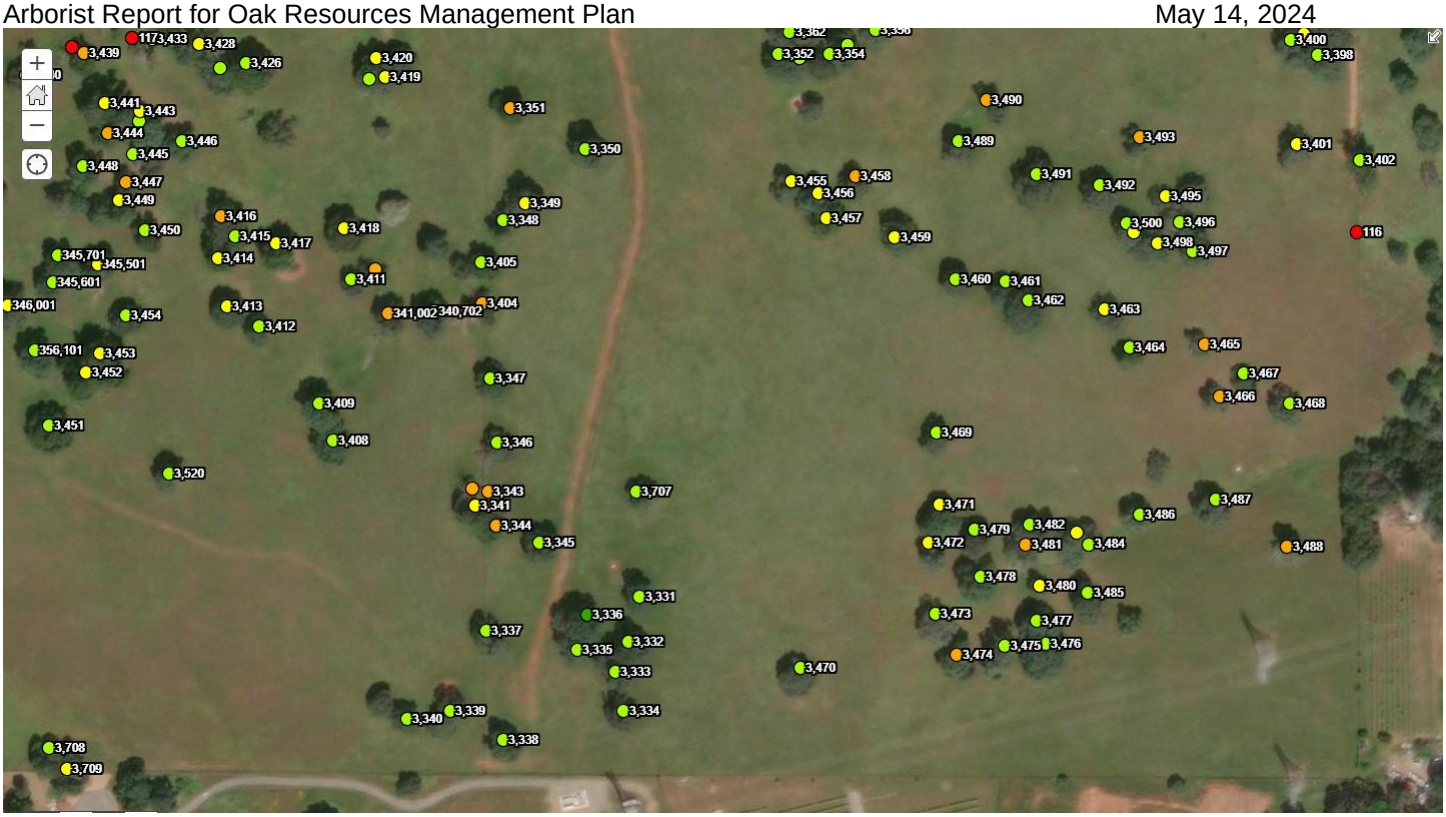
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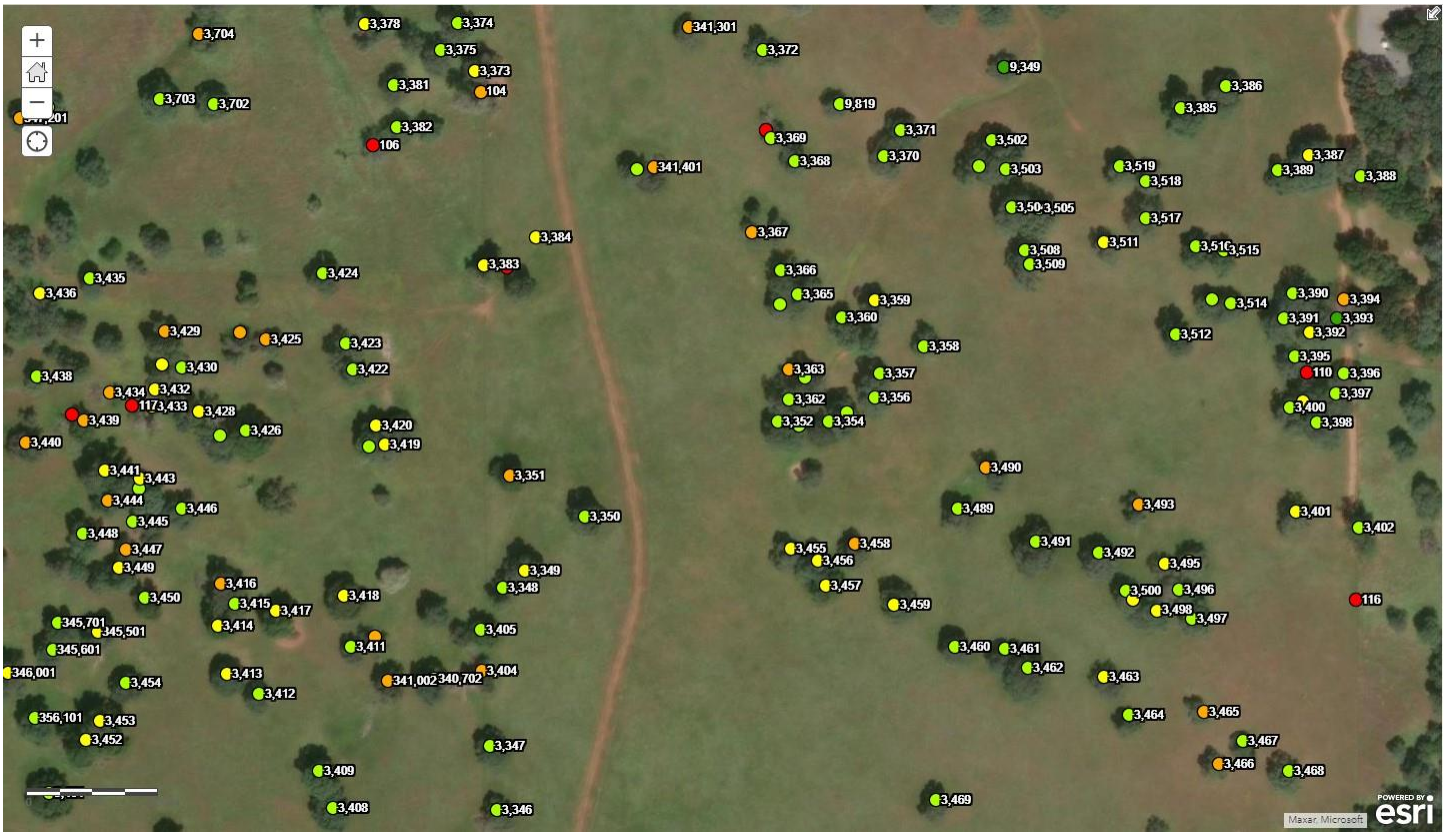
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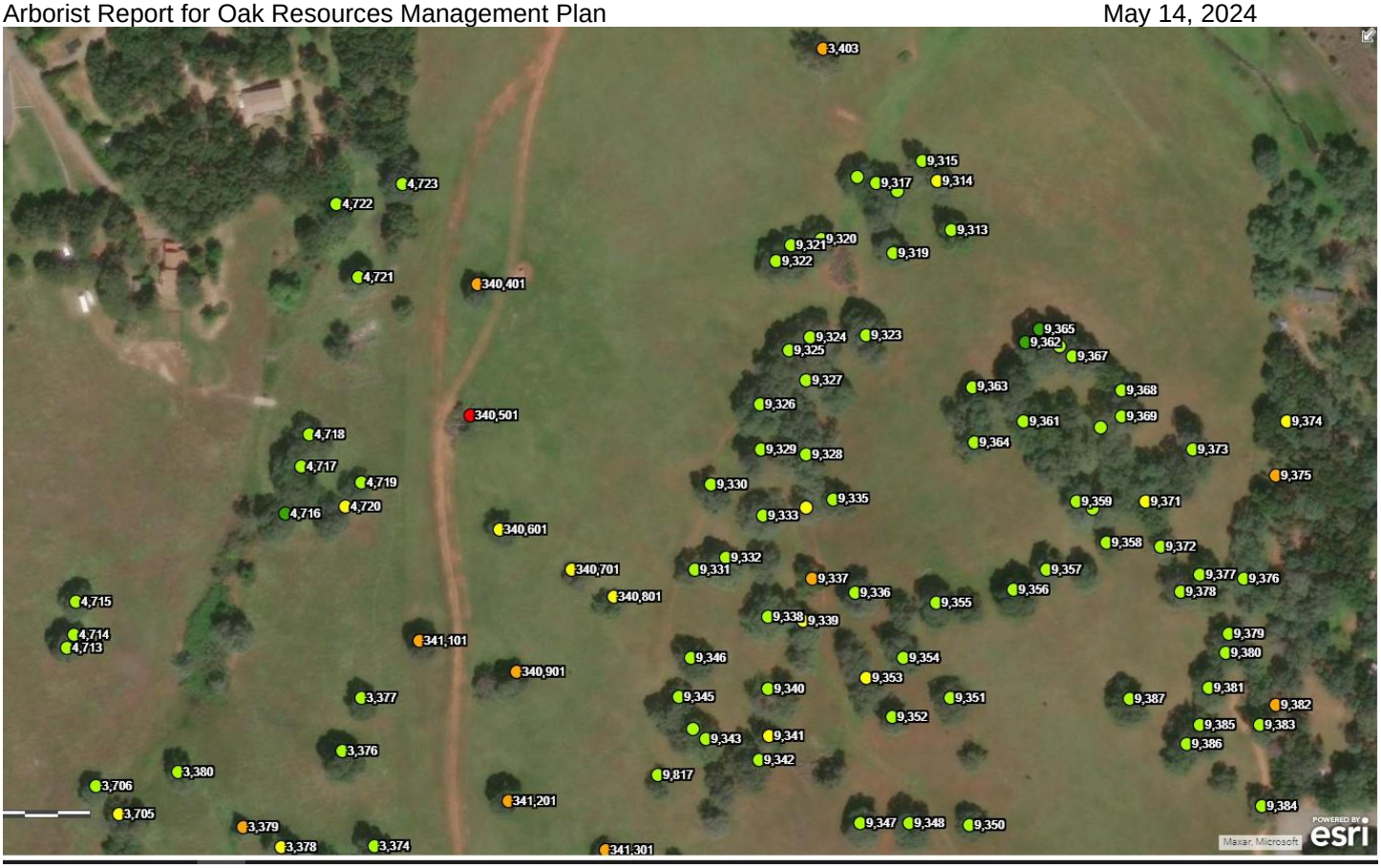
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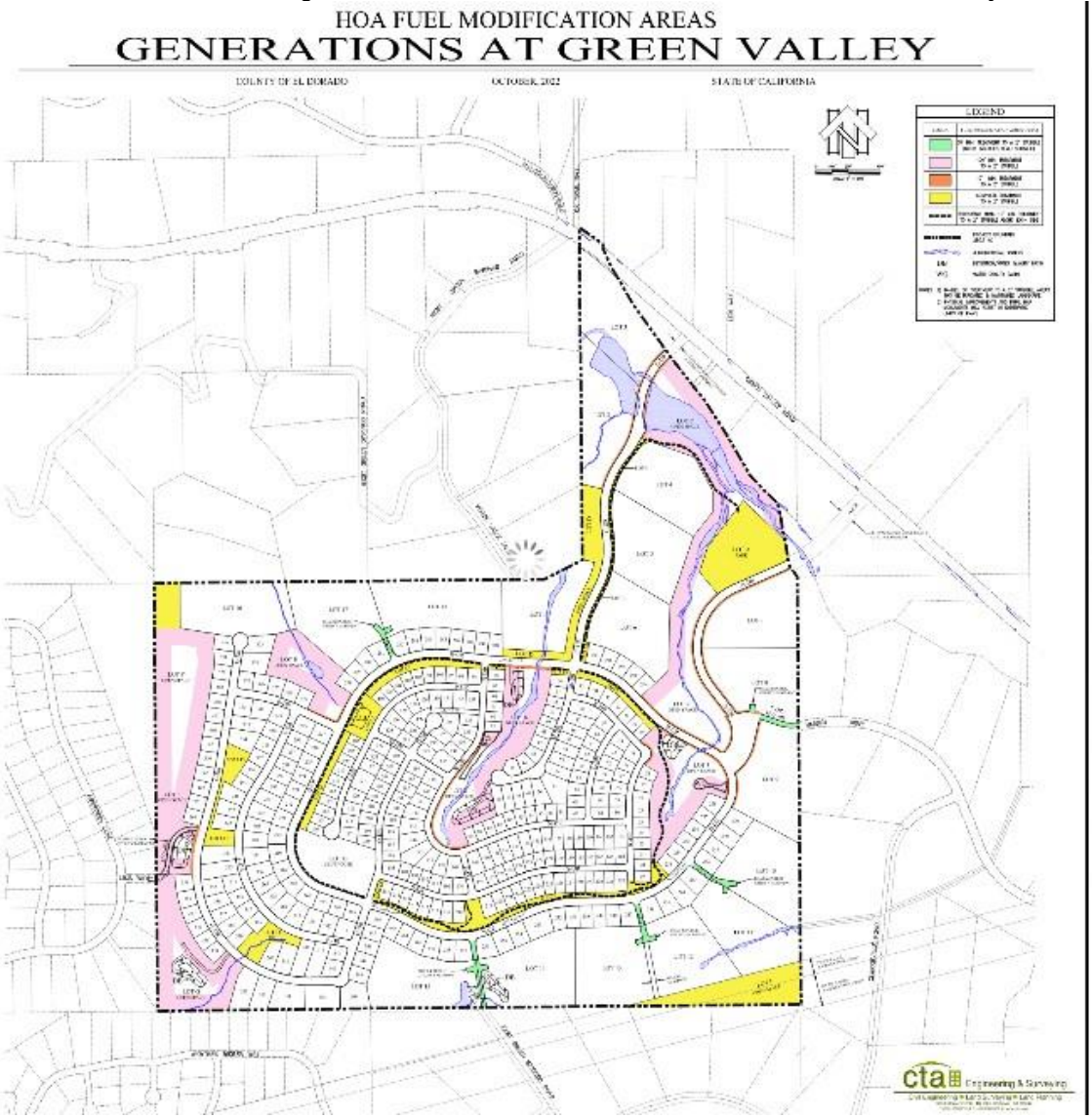
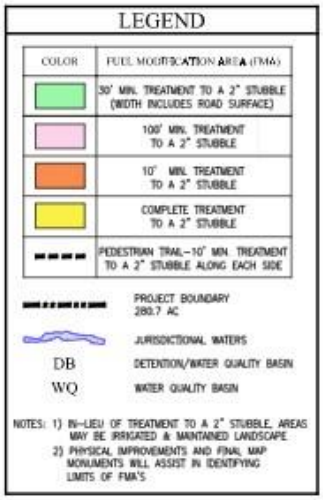
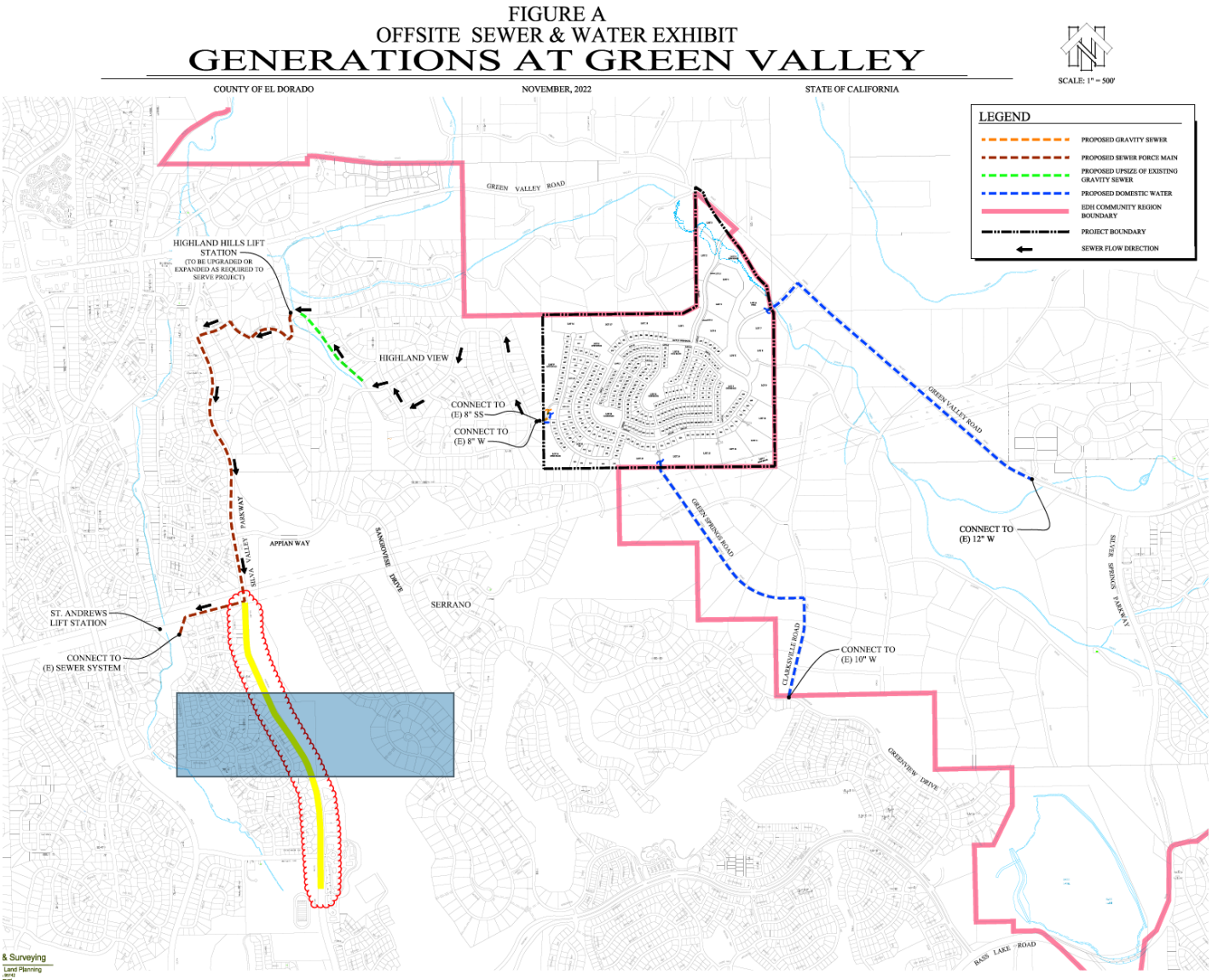


Onsite Fuel Modification Plan



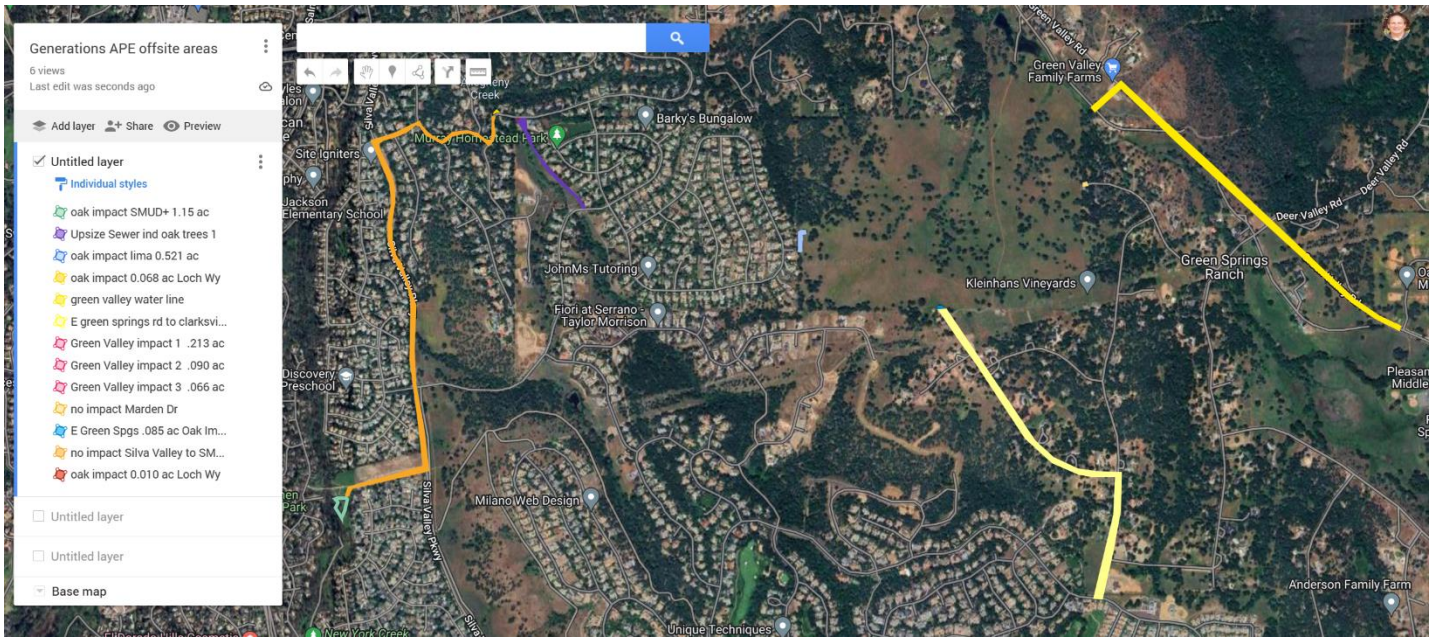
Fuel Modification Plan Legend

Appendix B – Off-Site Images



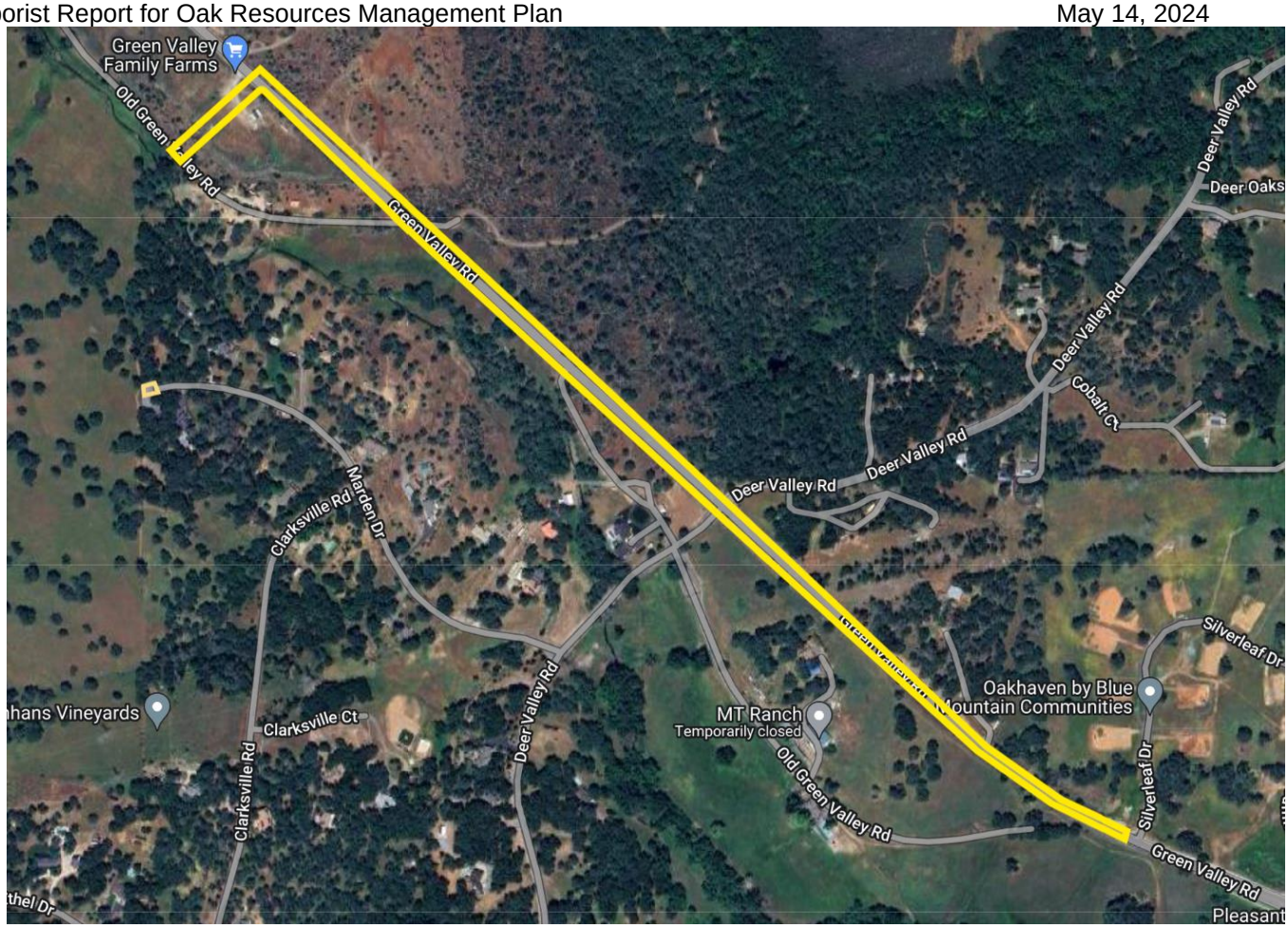
Area map used to inspect oak woodland impacts on off-site areas

Off-site Areas Aerial Images Overview, and Enlarged Areas:

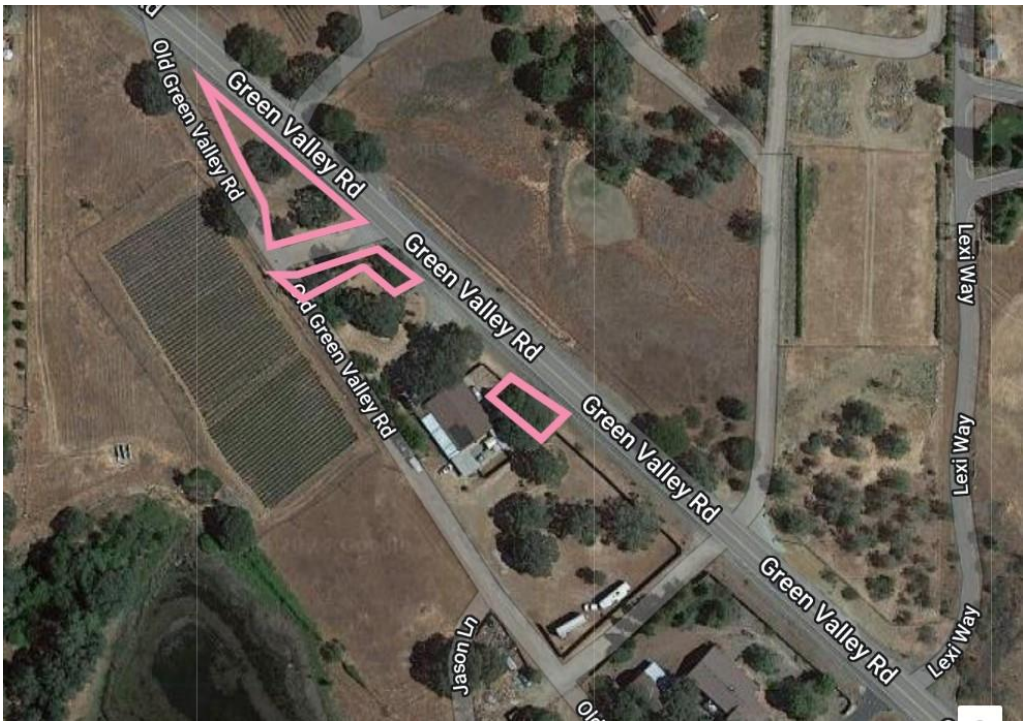


E Green Springs Rd Overview

E Green Springs Road and Oak Woodland area



Green Valley Rd Overview



Green Valley Rd enlarged

W. Glenmore Way to Loch Way enlarged

Marden Drive enlarged

Loch Way enlarged

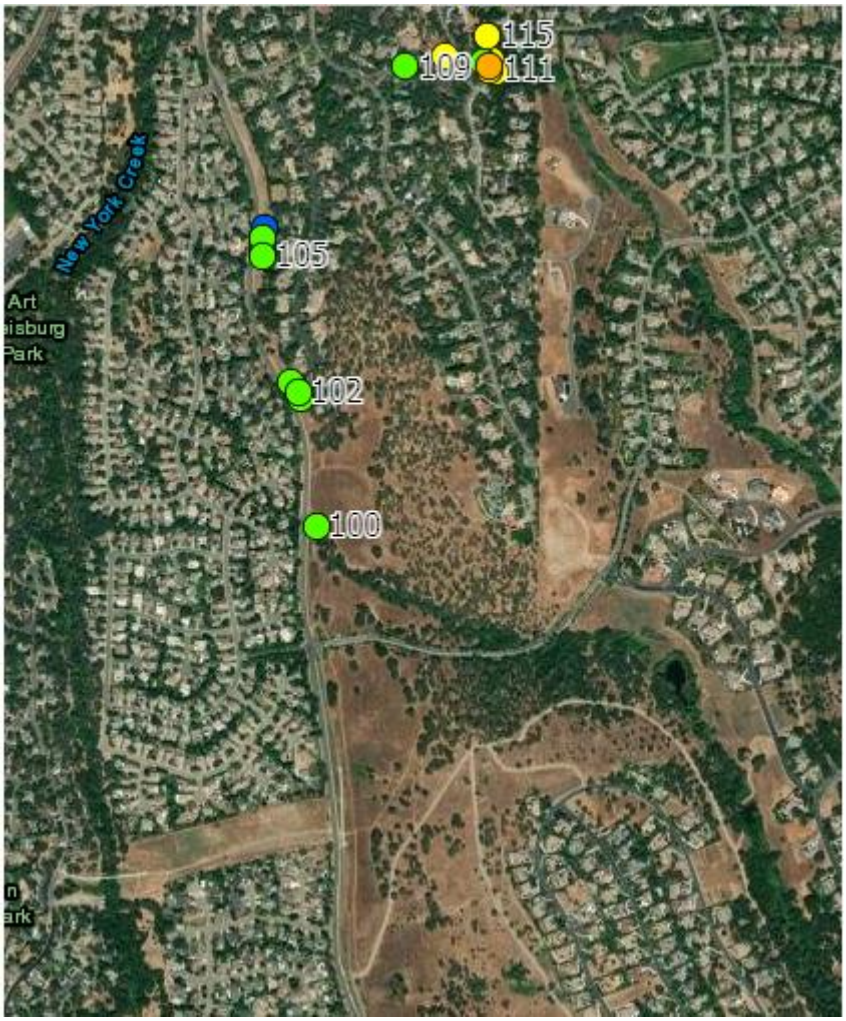
Heritage Tree 208

Heritage Tree 208

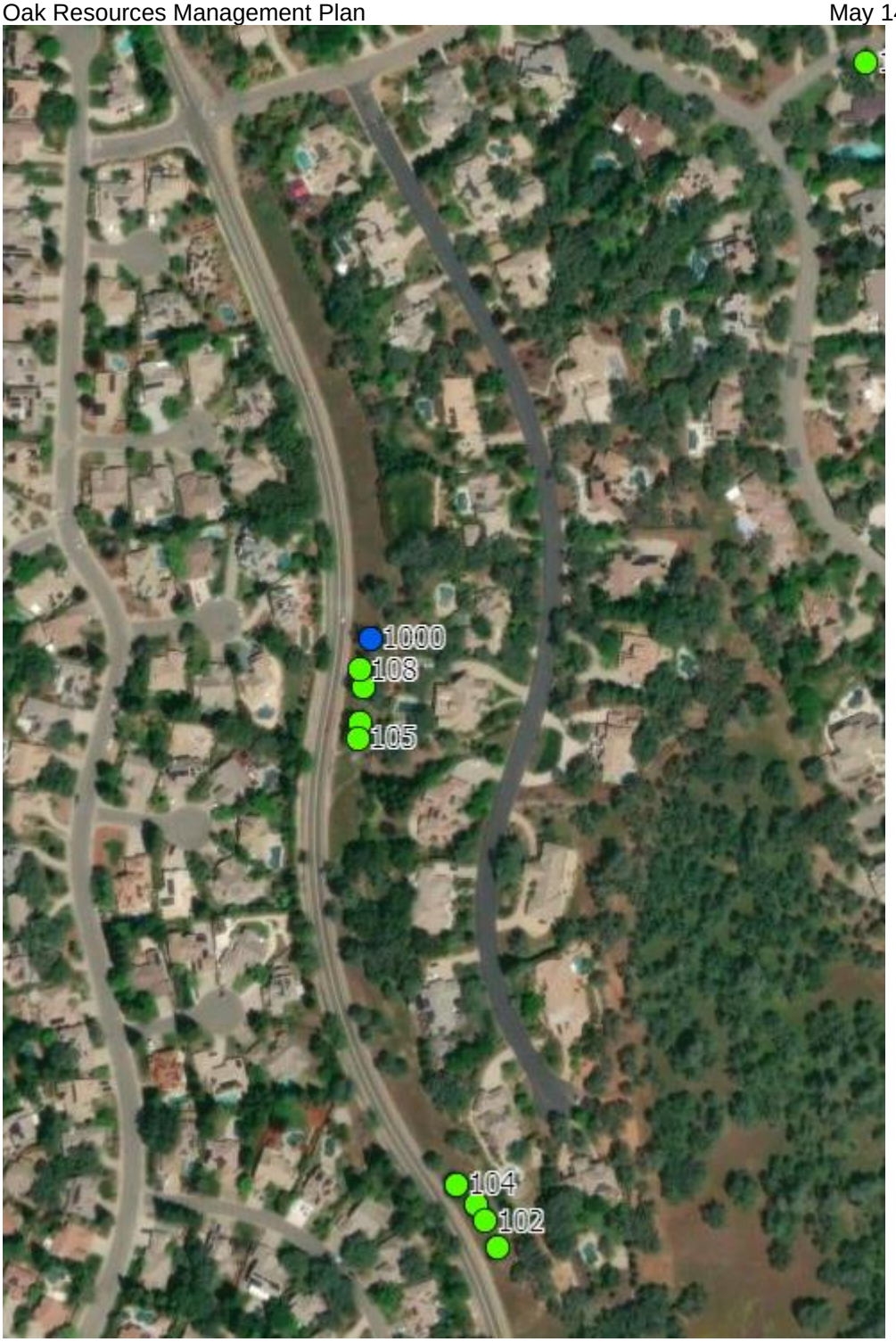
Lima Wy enlarged, no Heritage Trees or Individual oak trees

Highland Hills Lift Station, no Heritage Trees or Individual oak trees

Loch Way at Highland View impact 0.414 acres



Silva Valley Parkway; Trees along east side of Parkway far enough away from construction to avoid impact



Silva Valley Parkway enlarged; Trees along east side of Parkway far enough away from construction to avoid impact

Appendix C – Onsite and Off-Site Tree Lists for Proposed Removals and Mitigation

HERITAGE OAKS TO BE REMOVED

Tree #	Species	DBH	Condition	Mitigation Inches
3246	Int live oak	41.2	3 Fair	41
3426	Int live oak	68.6	3 Fair	69
3491	Blue oak	42	3 Fair	42
3520	Blue oak	41	3 Fair	41
3530	Blue oak	37	3 Fair	37
3532	Blue oak	47	3 Fair	47
3633	Int live oak	37	3 Fair	37
3634	Blue oak	37	3 Fair	37
4743	Int live oak	46	3 Fair	46
5894	Int live oak	36.4	3 Fair	36
345901	Int live oak	50.3	3 Fair	50
Totals	11 trees		Dia Inches:	483

INDIVIDUAL OAKS TO BE REMOVED

Tree #	Species	DBH	Condition	Mitigation Inches
1001	Blue Oak	16	3 Fair	16
1002	Blue Oak	10	3 Fair	10
1003	Blue Oak	6	3 Fair	6
1004	Blue Oak	6	3 Fair	6
1006	Coast live oak	6	3 Fair	6
3376	Blue oak	35.8	3 Fair	36
3377	Blue oak	27.9	3 Fair	28
3410	Blue oak	24	3 Fair	24
3523	Blue oak	22	3 Fair	22
3524	Blue oak	33	3 Fair	33
3528	Blue oak	28	3 Fair	28
3529	Blue oak	33	3 Fair	33
3531	Blue oak	33	3 Fair	33
3533	Blue oak	27	3 Fair	27
3534	Blue oak	22	3 Fair	22
3708	Blue oak	26.9	3 Fair	27
3709	Int live oak	34	3 Fair	34
4713	Blue oak	30.5	3 Fair	31
4714	Blue oak	27.5	3 Fair	28
4715	Blue oak	28	3 Fair	28
4740	Blue oak	26	3 Fair	26
9817	Blue oak	20.2	3 Fair	20
9819	Blue oak	22.6	3 Fair	23
341501	Blue oak	31.4	3 Fair	31
346801	Blue oak	21.6	3 Fair	22
3401A	Blue oak	18	3 Fair	18
Totals	26 trees		Dia Inches	618

Generations Off-Site Individual Trees and Heritage Trees

Tree List

Tree # / Area Location	Common Name	Diameter (inches)	Condition	Mitigation Inches	
N side Green Valley Rd	Blue Oak	19	Fair	19	
Green Springs Rd #999	Interior Live Oak	20	Fair	20	
Total Off-site Individual Oak trees					39
208/N side of Green Valley Rd	Blue Oak	47			
7137/N side of Green Valley Rd	Blue Oak	42			
Total Off-Site Heritage Trees					89

Appendix D
General Tree Protection

The edge of the tree canopy outside of the construction area shall be fenced off with construction fencing, either temporary orange fence or chain link fence. The fence shall be placed as far from the trees as possible, targeting outside the dripline. If the fence cannot be placed outside of the dripline, the project arborist shall determine if the distance is acceptable or some other soil protection is necessary. A certified arborist must approve the placement of the tree fence. The fence will be marked with weather appropriate signage clearly stating the area as “Protected! Do not enter! Tree preservation zone.” Sign(s) will be placed on every face or direction of fence line.

When excavating or trenching adjacent to trees, roots 2 inches and greater encountered in the trench shall be cleanly severed at the trench side closest to the tree, and then excavated, so the roots are not torn back towards the tree. Cut exposed roots ends or exposed roots shall be covered with moist soil or moist burlap and kept moist until the soil is backfilled.

No storage of supplies or materials, parking, or other construction activity shall occur within the fenced area. If a construction activity is required within the construction area, specific specifications and mitigation shall be written to cover the work, and the fencing may be entered during the necessary construction activity, then the fencing shall be replaced after the activity is completed for the day.

The construction protection shall remain in place until the project is completed, including landscape activities. Landscape activities shall have specifications that protect the trees during the landscape activities.

Any bare soil around protected trees should be covered with a 4-inch layer of mulch consisting of ground-up tree parts.

If the protected trees appear to show signs of yellowing leaves, dead leaves, or other abnormal appearance, contact the project arborist for inspection and mitigation.

Appendix E
Long Term Landscape Maintenance Plan and Specifications

General
This section is intended to promote the optimum landscape growth and lifespan. Individual tree planting in specific sites in are intended to provide a large shade canopy and attractive landscapes over time. The border and natural screening plantings are sometimes overplanted and intended to fill the space initially, and have the weaker trees or shrubs removed over time, to create the space and site resources necessary for the remaining trees and shrubs.

These trees shall be pruned to establish a dominant leader, to provide the best structure by managing size relationships between parent and subordinate trunk and branches, and to encourage growth into a large shade canopy. These trees shall not be topped or rounded over. Trees may have competing leaders headed back to promote the strong central leader necessary to eliminate co-dominant stems and weak branching.

Design Intent
The trees planted around the perimeter of lots and alongside the sidewalk or street are intended to increase the appearance of natural areas and to screen the project and adjacent properties.

Pruning Small Trees
Branches are to be pruned by either reduction, thinning, or raising cuts to achieve the appropriate clearance over the area. The smallest diameter branches should be removed, working from the branch tips towards the center, removing none to minimal interior foliage inside the final outward branch cut. Trees shall be cleaned to remove dead branches, weakly attached branches, and branches where significant damage has occurred by rubbing, animals, insects, or critical disease. All pruning cuts shall be made in accordance with American National Standards Institute (ANSI) A300 Part 1 Pruning Standards and International Society of Arboriculture (ISA) Best Management Practices for Pruning.

On trees up to six inches in diameter, all dead branches greater than one-half inch diameter shall be removed. All weakly attached branches and potential co-dominant branches shall either be reduced by at least 20% or be removed, as most appropriate for the long term structure of the tree. The weakest or most damaged branch of a pair or group of rubbing branches shall be shortened to avoid rubbing, or removed. All temporary branches along the trunk should be retained and shortened to obtain necessary clearance. When either temporary branches exceed one-inch diameter, or the trunk forms mature bark, the temporary branches should be removed.

Stakes shall be installed as necessary to support a straight growing tree, and reduce crooked growth caused by high wind. The trunk shall be supported at the lowest point to keep the crown supported straight, and the portions of the stake above the tie point cut off to avoid rubbing branches. After the tree becomes firmly rooted, and the stake is no longer necessary to support the tree, the stakes shall be removed.

Depending on the location and site needs, clearance should be performed by pruning the smallest branches inward from the branch tips until the permanent branches are in place. Clearance minimums should be set, for example: 7.5’ over sidewalks, 10 feet over parking spaces, and 15 feet over truck traffic streets. Clearance pruning shall be carefully performed until the permanent branches are identified. Up to 25% of the total foliage on any tree should be the maximum removed during any planned pruning cycle. Follow-up pruning for structure or clearance on young trees can be performed at any time if pruning small amounts of foliage (up to 10%) and retaining the central leader and branch size relationships.

Pruning Large Trees
Branches are to be pruned by either reduction, thinning, or raising cuts to achieve the appropriate clearance over the area. The smallest diameter branches should be removed, working from the branch tips towards the center, removing none to minimal interior foliage inside the final outward branch cut. Trees shall be cleaned to remove dead branches, weakly attached branches, and branches where significant damage has occurred by rubbing, animals, insects, or critical disease. All pruning cuts shall be made in accordance with American National Standards Institute (ANSI) A300 Part 1 Pruning Standards and International Society of Arboriculture (ISA) Best Management Practices for Pruning.

On trees larger than six inches in diameter, all dead branches greater than one-inch diameter shall be removed. Long heavy branches that are either growing flat or bending down shall have approximately 15% of the end weight reduced, accomplished by a combination of pruning the downward growing branches, shortening long tips, and thinning end

weights. If any structural issues are observed by the climber working in the tree, they shall notify the property manager immediately to discuss the tree's needs.

Depending on the location and site needs, clearance should be performed by pruning the smallest branches inward from the branch tips until the permanent branches are in place. Clearance minimums should be set, for example: 7.5' over sidewalks, 10 feet over parking spaces, and 14.5 feet over streets where trash pick up occurs. Clearance pruning shall be carefully performed until the permanent branches are identified. Only as much live foliage as necessary to accomplish the objective should be removed. Up to 25% of the total foliage on any tree should be the maximum removed during any planned pruning cycle.

Any special site issues for utility clearance or conflicts with other objects shall be managed by early pruning to direct growth away from the target lines, overhead lights, flags, or buildings.

Thinning of Dense Planting

Many landscape plantings and natural landscape areas are over-planted by installing a greater number of plants at closer spacing than optimum for the full-sized plants. Over time, plants will grow into each other, the crowns will conflict, and the spacing will need to be corrected. Correct spacing is obtained by removing the least desirable plants to meet the final spacing target, within reasonable tolerances.

If conflicting plants are all healthy, it won't matter which plants are removed to achieve the spacing distances. Spaced thinning should be performed before the foliar crowns are intertwined or overlapping. The thinning may be performed over two or three cycles as the trees grow over time, depending on the density and desired final spacing.

Appendix F

Avoiding Tree Damage During Construction

Edited from the ISA's tree protection guidelines

As cities and suburbs expand, wooded lands are being developed into commercial and residential sites. Homes are constructed in the midst of trees to take advantage of the aesthetic and environmental value of the wooded lots. Wooded properties can be worth as much as 20 percent more than those without trees, and people value the opportunity to live among trees.

Unfortunately, the processes involved with construction can be deadly to nearby trees. Unless the damage is extreme, the trees may not die immediately but could decline over several years. With this delay in symptom development, you may not associate the loss of the tree with the construction.

It is possible to preserve trees on building sites if the right measures are taken. The most important step is to hire a professional arborist during the planning stage. An arborist can help you decide which trees can be saved and can work with the builder to protect the trees throughout each construction phase.

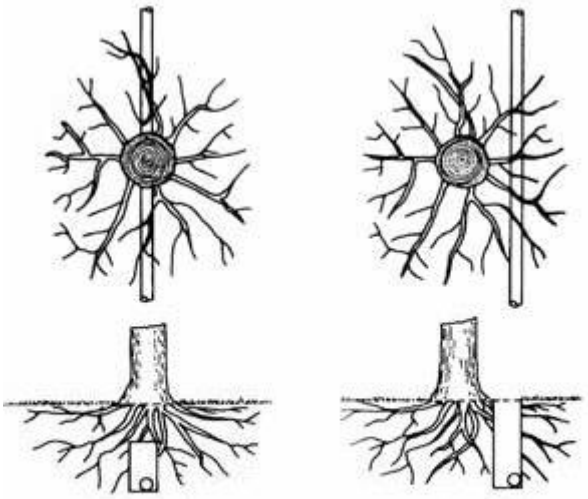
How Trees Are Damaged During Construction

Physical Injury to Trunk and Crown. Construction equipment can injure the aboveground portion of a tree by breaking branches, tearing the bark, and wounding the trunk. These injuries are permanent and, if extensive, can be fatal.

Cutting of Roots. The digging and trenching that are necessary to construct a house and install underground utilities will likely sever a portion of the roots of many trees in the area. It is easy to appreciate the potential for damage if you understand where roots grow. The roots of a tree are found mostly in the upper 6 to 24 inches of the soil. In a mature tree, the roots extend far from the trunk. In fact, roots typically are found growing a distance of one to three times the height of the tree. The amount of damage a tree can suffer from root loss depends, in part, on how close to the tree the cut is made. Severing one major root can cause the loss of 5 to 20 percent of the root system.

The roots of a tree extend far from the trunk and are found mostly in the upper 6 to 12 inches of soil.

Another problem that may result from root loss caused by digging and trenching is that the potential for the trees to fall over is increased. The roots play a critical role in anchoring a tree. If the major support roots are cut on one side of a tree, the tree may fall or blow over.



Less damage is done to tree roots if utilities are tunneled under a tree (right, top and bottom) rather than across the roots (left, top and bottom).

Less damage is done to tree roots if utilities are tunneled under a tree rather than across the roots.

Soil Compaction. An ideal soil for root growth and development is about 50 percent pore space. These pores—the spaces between soil particles—are filled with water and air. The heavy equipment used in construction compacts the soil and can dramatically reduce the amount of pore space. This compaction not only inhibits root growth and penetration but also decreases oxygen in the soil that is essential to the growth and function of the roots, and water infiltration.

Smothering Roots by Adding Soil. Most people are surprised to learn that 90 percent of the fine roots that absorb water and minerals are in the upper 6 to 12 inches of soil. Roots require space, air, and water. Roots grow best where these requirements are met, which is usually near the soil surface. Piling soil over the root system or increasing the grade smothers the roots. It takes only a few inches of added soil to kill a sensitive mature tree.

Exposure to the Elements. Trees in a forest grow as a community, protecting each other from the elements. The trees grow tall, with long, straight trunks and high canopies. Removing neighboring trees or opening the shared canopies of trees during construction exposes the remaining trees to sunlight and wind. The higher levels of sunlight may cause sunscald on the trunks and branches. Also, the remaining trees are more prone to breaking from wind or ice loading.

Getting Advice

Hire a professional arborist in the early planning stage. Many of the trees on your property may be saved if the proper steps are taken. Allow the arborist to meet with you and your building contractor. Your arborist can assess the trees on your property, determine which are healthy and structurally sound, and suggest measures to preserve and protect them.

One of the first decisions is determining which trees are to be preserved and which should be removed. You must consider the species, size, maturity, location, and condition of each tree. The largest, most mature trees are not always the best choices to preserve. Younger, more vigorous trees usually can survive and adapt to the stresses of construction better. Try to maintain diversity of species and ages. Your arborist can advise you about which trees are more sensitive to compaction, grade changes, and root damage.

Planning

Your arborist and builder should work together in planning the construction. The builder may need to be educated regarding the value of the trees on your property and the importance of saving them. Few builders are aware of the way trees' roots grow and what must be done to protect them.

Sometimes small changes in the placement or design of your house can make a great difference in whether a critical tree will survive. An alternative plan may be more friendly to the root system. For example, bridging over the roots may substitute for a conventional walkway. Because trenching near a tree for utility installation can be damaging, tunneling under the root system may be a good option.

Erecting Barriers

Because our ability to repair construction damage to trees is limited, it is vital that trees be protected from injury. The single most important action you can take is to set up construction fences around all of the trees that are to remain. The fences should be placed as far out from the trunks of the trees as possible. As a general guideline, allow 1 foot of space from the trunk for each inch of trunk diameter. The intent is not merely to protect the aboveground portions of the trees but also the root systems. Remember that the root systems extend much farther than the drip lines of the trees.

Instruct construction personnel to keep the fenced area clear of building materials, waste, excess soil, and equipment. No digging, trenching, or other soil disturbance such as driving vehicles and equipment over the soil should be allowed in the fenced area.

Protective fences should be erected as far out from the trunks as possible in order to protect the root system prior to the commencement of any site work, including grading, demolition, and grubbing.

Limiting Access

If at all possible, it is best to allow only one access route on and off the property. All contractors must be instructed where they are permitted to drive and park their vehicles. The construction access drive should be the route for utility wires; underground water, sewer, or storm drain lines; roadways; or the driveway.

Protective fences should be erected as far out from the trunks as possible in order to protect the root systems.

Specify storage areas for equipment, soil, and construction materials. Limit areas for burning (if permitted), cement wash-out pits, and construction work zones. These areas should be away from protected trees.

Specifications

Specifications are to be put in writing. All of the measures intended to protect your trees must be written into the construction specifications. The written specifications should detail exactly what can and cannot be done to and around the trees. Each subcontractor must be made aware of the barriers, limitations, and specified work zones. It is a good idea to post signs as a reminder.

Fines and penalties for violations should be built into the specifications. Not too surprisingly, subcontractors are much more likely to adhere to the tree preservation clauses if their profit is at stake. The severity of the fines should be proportional to the potential damage to the trees and should increase for multiple infractions.

Maintaining Good Communications

It is important to work together as a team. You may share clear objectives with your arborist and your builder, but one subcontractor can destroy your prudent efforts. Construction damage to trees is often irreversible.

Visit the site at least once a day if possible. Your vigilance will pay off as workers learn to take your wishes seriously. Take photos at every stage of construction. If any infraction of the specifications does occur, it will be important to prove liability.

Final Stages

It is not unusual to go to great lengths to preserve trees during construction, only to have them injured during landscaping. Installing irrigation systems and roto-tilling planting beds are two ways the root systems of trees can be damaged. Remember also that small increases in grade (as little as 2 to 6 inches) that place additional soil over the roots can be devastating to your trees. ANSI A300 Standards Part 5 states that tree protection shall be in place for the landscape phase of the site development. Landscape tree protection may be different than other construction process tree protection, and a conference with the landscape contractor should be held prior to the commencement of the landscape work. Careful planning and communicating with landscape designers and contractors is just as important as avoiding tree damage during construction.

Post-Construction Tree Maintenance

Your trees may require several years to adjust to the injury and environmental changes that occur during construction. The better construction impacts are avoided, the less construction stress the trees will experience. Stressed trees are more prone to health problems such as disease and insect infestations. Talk to your arborist about continued maintenance for your trees. Continue to monitor your trees, and have them periodically evaluated for declining health or safety hazards.

Despite the best intentions and most stringent tree preservation measures, your trees still might be injured from the construction process. Your arborist can suggest remedial treatments to help reduce stress and improve the growing conditions around your trees. In addition, the International Society of Arboriculture offers a companion to this brochure titled “Treatment of Trees Damaged by Construction”.

Appendix G
Tree Planting Specifications

Trees shall be free of major injury such as scrapes that remove greater than 20% of the bark circumference, a broken central leader, or constrictions from staking or support. The graft, if present, shall be consistent for the production of the cultivar or species. The trunk flare shall be at grade, not buried by soil, and adventitious roots shall not be growing from above the trunk flare.

The tree shall not be root bound in the container, and the trunk diameter relative to the container sizes, within the limits of American National Standards Institute (ANSI) Z-60 Nursery Standards.

Prior to acceptance, upon delivery, trees may be pulled from the container, so the rootball can be inspected for compliance with the specifications. An agreed upon maximum percent of trees may be checked for compliance. The nursery should provide post delivery care specifications to keep the trees in optimum condition until planting.

Tree Planting

1.0 INSPECT THE TREE

1.1 Carefully remove the soil at the top of the container to locate the trunk flare. Check for girdling roots and damage to the root system and lower trunk.

1.2 Until a relationship is established with the supplying nursery, randomly select an acceptable sample for the delivery. Inspect the root system by taking the rootball out of the container, and remove all the soil from the root system. Inspect the inner roots to verify that the roots were properly pruned when moved from the initial container to the next

larger size. Keep the root system moist during the check. If the roots were properly pruned during container transfer, and the roots have been kept moist, the tree can be planted as a bare root tree.

1.3 If the trees are acceptable, each tree shall be removed from the container prior to digging the hole, and the depth of the rootball from the trunk flare to the bottom of the rootball shall be measured. This measurement, less 1" is the depth the pedestal in the center of the planting hole shall be excavated to.

2.0 DIG THE HOLE

2.1 Shave and discard grass and weeds from the planting site.
2.2 The hole should be a minimum 3 times the diameter of the container diameter.
2.2.1 Square containers shall be dug with a circular hole 3 times the container measurement.
2.3 Dig the hole, leaving an undisturbed pedestal in the center that the root ball will be set on.
2.4 The pedestal shall be excavated to the depth measurement determined above

3.0 ROOT BALL PREPARATION

3.1 Loosen and straighten outside and bottom roots prior to placing the rootball on the pedestal. The trunk flare (the point where the trunk meets the roots) should be 1" above ground level.
3.2 Winding and girdling roots shall be pruned to either the point they are perpendicular to the root ball, or a point where they can be straightened and placed perpendicular to the rootball.
3.3 Keep the roots moist during this process so they do not dry out.

4.0 BACKFILL

4.1 Hold the tree so the trunk and central leader are in a straight upright position.
4.2 Backfill soil with the soil you removed around the base of the pedestal and rootball no higher than 2/3, so the tree stands in the upright position
4.3 Tamp the soil to remove air gaps, or fill with water and allow soil to settle and drain. Continue to fill the entire hole with existing soil in layers and tamping, up to finished grade. Backfill soil shall not be placed on top of the rootball.
4.4 Build a berm at the outside edge of the rootball. The berm shall be a minimum 3 inches high and wide.
4.5 Cover the remainder of the backfill soil outside the berm with a set level of mulch (2 to 4 inches deep).

5.0 STAKING

5.1 Remove the nursery stake (the thin stake tied to the trunk) that is secured to the tree.
5.2 Install the appropriate number of stakes – for example, two stakes on the windward and leeward side of the tree, set at least 2 feet into the native soil outside the rootball.
5.2.1If the area is exceptionally windy, high traffic, or when specified, install 3 or 4 stakes spaced evenly around the circumference, outside the rootball.
5.3 One tie per stake shall be placed at the lowest point on the trunk where the tree crown stands upright. Ties shall be placed using a "figure 8" crossing pattern wrapped around the trunk and firmly tied or attached to the stake.
5.3.1 Ties shall be loose enough so the tree crown moves up to 3 times the trunk diameter in the wind, and taut enough that the trunk does not rub the stakes during movement.
5.4 The stakes shall be cut off above the tie point so branches do not rub the stake above the tie point.
5.5 Check the stakes and ties periodically, removing them when the tree is able to stand on its own.
5.6 If a leader that should be vertical is drooping, the leader may be temporarily straightened using a bamboo or small diameter wood splint approximately 25% longer than the drooping section of stem, tied to the stem at the top and bottom of the splint to hold the stem vertical. The splint shall be removed prior to girdling or constricting the stem, and may be re-installed as necessary.

6.0 MULCH

6.1 Apply a set depth (2 to 4 inches) of wood chips or other organic mulch over the planting hole excavated soil.
6.2 Mulch may be placed inside the berm and shall be kept at least 4" away from the trunk flare.
6.3 The soil area of the planting hole shall be kept clear of grass and landscape plantings.

7.0 WATER/IRRIGATION

7.1 Apply water using a low pressure application, i.e.: trickle from a hose, soaker hose, or bubbler.
7.2 Use low water volume to apply the water. Add water long enough to saturate the rootball and planting area.
7.2.1 Lawn sprinklers shall not be considered an acceptable method of applying irrigation to newly planted trees.
7.3 The initial watering frequency shall be checked by monitoring the soil moisture. Based on the temperature and humidity, learn how long the soil retains the moisture.

7.4 After the soil is below field capacity, and before it dries out, repeat the watering process, every so determined days.
7.4.1 As the weather and seasons change, the irrigation frequency may change. This will be evaluated by checking soil moisture following water application.
7.4.1.1 For example: you may learn irrigation should be applied twice a week during the fall, except in cool or rainy weather. Irrigation may need to be applied every two days during hot dry summer periods.
7.5 Irrigation shall be continued for the first three years after planting.
7.5.1 Avoiding drying out the rootball and adjacent soil is critcal for tree growth and establishment.

8.0 PROTECT THE TRUNK

8.1 Avoid damage from mowers and string trimmers to the tender bark of the young tree.
8.2 Maintain a clear area free of vegetation around the trunk in the berm or basin area.
8.3 Keep the set depth of mulch (2 to 4 inches) coverage of the area around the tree.
8.4 Retain temporary low branches along the trunk to shade and feed the trunk.

9.0 PRUNING NEWLY PLANTED TREES

9.1 Broken and dead branches shall be pruned.
9.2 A central leader shall be identified and retained if present. If co-dominant leaders are present, they shall be pruned to be shorter than the central leader by 20%.
9.3 All low temporary branches on the lower trunk shall be retained, and if needed shortened for clearance.

Detail for #1, #5 and #15 container planting stock

10. **FUTURE CARE**

10.1 During subsequent years, the berm should be enlarged or removed to in order to provide water to the increasing root growth. The watering area should target new root growth and projected root growth.
10.2 Pruning should retain a dominant central leader; and retain low temporary branches until trunk bark hardens or remove before branch diameter becomes too large.

Appendix F1

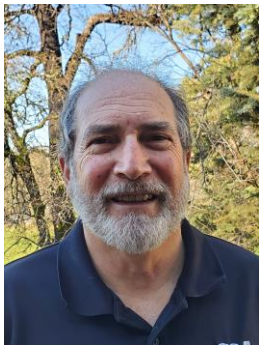
Nursery Stock and Tree Planting

Nursery Stock purchase

Trees purchased for the subject project shall be the Genus, species, and cultivar specified in the purchase documents. Trees shall be grown to be free of bound root systems caused by winding roots or kinked roots from a previous smaller container. As trees are moved to larger containers, circling roots shall be either pruned to a point where they can grow straight, straightened in the new container, or removed. Kinked roots shall be pruned to a point where they will grow straight outward or downward.

The trunk and branches shall be of a structure where a central leader is defined, or the central leader can be easily selected. The competing leaders have a smaller diameter, and can be pruned shorter.

California Tree and Landscape Consulting, Inc.



GORDON MANN

EDUCATION AND QUALIFICATIONS

1977	Bachelor of Science, Forestry, University of Illinois, Champaign.
1982 - 1985	Horticulture Courses, College of San Mateo, San Mateo.
1984	Certified as an Arborist, WE-0151A, by the International Society of Arboriculture (ISA).
2004	Certified as a Municipal Specialist, WE-0151AM, by the ISA.
2011	Registered Consulting Arborist, #480, by the American Society of Consulting Arborists (ASCA).
2003	Graduate of the ASCA Consulting Academy.
2006	Certified as an Urban Forester, #127, by the California Urban Forests Council (CaUFC).
2011	TRACE Tree Risk Assessment Certified, continued as an ISA Qualified Tree Risk Assessor (T.R.A.Q.).

PROFESSIONAL EXPERIENCE

2016 – Present CALIFORNIA TREE AND LANDSCAPE CONSULTING, INC (CalTLC). President and Consulting Arborist.
Auburn. Mr. Mann provides consultation to private and public clients in health and structure analysis, inventories, management planning for the care of trees, tree appraisal, risk assessment and management, and urban forest management plans.

1986 - Present MANN MADE RESOURCES. Owner and Consulting Arborist. Auburn.
Mr. Mann provides consultation in municipal tree and risk management, public administration, and developing and marketing tree conservation products.

2015 – 2017 CITY OF RANCHO CORDOVA, CA. Contract City Arborist.
Mr. Mann serves as the City's first arborist, developing the tree planting and tree maintenance programs, performing tree inspections, updating ordinances, providing public education, and creating a management plan,

1984 – 2007 CITY OF REDWOOD CITY, CA. City Arborist, Arborist, and Public Works Superintendent.
Mr. Mann developed the Tree Preservation and Sidewalk Repair Program, supervised and managed the tree maintenance program, performed inspections and administered the Tree Preservation Ordinance. Additionally, he oversaw the following Public Works programs: Streets, Sidewalk, Traffic Signals and Streetlights, Parking Meters, Signs and Markings, and Trees.

1982 – 1984 CITY OF SAN MATEO, CA. Tree Maintenance Supervisor.
For the City of San Mateo, Mr. Mann provided supervision and management of the tree maintenance program, and inspection and administration of the Heritage Tree Ordinance.

1977 – 1982 VILLAGE OF BROOKFIELD, IL. Village Forester.
Mr. Mann provided inspection of tree contractors, tree inspections, managed the response to Dutch Elm Disease. He developed an in-house urban forestry program with leadworker, supervision, and management duties to complement the contract program.

1979 - Present INTERNATIONAL SOCIETY OF ARBORICULTURE. Member.

- Board of Directors (2015 - Present)

- True Professional of Arboriculture Award (2011); In recognition of material and substantial contribution to the progress of arboriculture and having given unselfishly to support arboriculture.

1982 - Present WESTERN CHAPTER ISA (WCISA). Member.

- Chairman of the Student Committee (2014 - 2017)
- Member of the Certification Committee (2007 - Present)
- Chairman of the Municipal Committee (2009 - 2014) • Award of Merit (2016) In recognition of outstanding meritorious service in advancing the principles, ideals and practices of arboriculture.
- Annual Conference Chair (2012)
- Certification Proctor (2010 – Present)
- President (1992 - 1993)
- Award of Achievement and President's Award (1990)

1985 - Present CALIFORNIA URBAN FORESTS COUNCIL (CaUFC). Member; Board Member (2010 - Present)

1985 - Present SOCIETY OF MUNICIPAL ARBORISTS (SMA). Member. e Legacy Project of the Year (2015) o In recognition of outstanding meritorious service in advancing the principles, ideals and practices of arboriculture.

- Board Member (2005 - 2007)

2001 - Present AMERICAN SOCIETY OF CONSULTING ARBORISTS.
Member. e Board of Directors (2006 - 2013)
• President (2012)

2001 - Present CAL FIRE. Advisory Position.
• Chairman of the California Urban Forestry Advisory Committee (2014 - 2017)

2007 – Present AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI): A300 TREE MAINTENANCE STANDARDS
COMMITTEE. SMA Representative and Alternate.

- Alternative Representative for SMA (2004 - 2007; 2012 - Present)
- Representative for SMA (2007 - 2012)

2007 - Present SACRAMENTO TREE FOUNDATION. Member and Employee.

- Co-chair/member of the Technical Advisory Committee (2012 - Present)
- Urban Forest Services Director (2007 - 2009) e Facilitator of the Regional Ordinance Committee (2007 - 2009)
- 1988 - 1994 TREE CLIMBING COMPETITION.
  - Chairman for Northern California (1988 - 1992)
  - Chairperson for International (1991 - 1994)

PUBLICA TIONS AND LECTURES

Mr. Mann has authored numerous articles in newsletters and magazines such as Western Arborist, Arborist News, City Trees, Tree Care Industry Association, Utility Arborists Association, CityTrees, and Arborists Online, covering a range of topics on Urban Forestry, Tree Care, and Tree Management. He has developed and led the training for several programs with the California Arborist Association. Additionally, Mr. Mann regularly presents at numerous professional association meetings on urban tree management topics.

Arborist Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Assumptions and Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant‘s prior express written consent.
7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant’s fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
9. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing or coring. Consultant makes no warranty or guarantee, express or implied that the problems or deficiencies of the plans or property in question may not arise in the future.
10. Loss or alteration of any part of this Agreement invalidates the entire report.

Certificate of Performance

I, Gordon Mann, certify that:

The trees were inspected by an ISA Certified Arborist. I have personally reviewed the trees and site referred to in this report and have stated my findings accurately. The extent of the inspection is stated in the attached report under Assignment;

I have no current or prospective interest in the vegetation, or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved;

The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts;

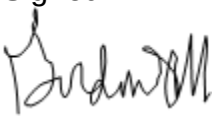
My analysis, opinions, and conclusions were developed, and this report has been prepared according to commonly accepted arboricultural practices;

No one provided significant professional assistance to me, except as indicated within the report;

My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client, or any other party, nor upon the results of the assignment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of the International Society of Arboriculture (ISA) and an ISA Certified Arborist and Municipal Specialist. I am also a Registered Consulting Arborist member in good standing of the American Society of Consulting Arborists. I have been involved in the practice of arboriculture and the care and study of trees for over 45 years.

Signed:



Gordon Mann
Date: May 14, 2024

May 7, 2024

Mr. Aidan Barry, Executive Vice President
TTLC Management, Inc
110 Blue Ravine Road, Suite 209
Folsom, CA 95630
c/o Jaren Nuzman

SUBJECT: ARBORIST MEMO FOR SILVA VALLEY PARKWAY ALTERNATIVE SEWER ROUTING CONSTRUCTION POTENTIAL OAK IMPACT

Dear Mr. Nuzman,

Thank you for the opportunity to provide additional Arborist Consulting Services. This memo includes the observations and assessment of the Silva Valley Parkway Oak trees growing adjacent to the proposed alternative construction for the sewer system for Generations development. The site was re-visited on April 26, 2024.

Assignment: The area along the east side of Silva Valley Parkway from the SMUD Corridor south to just south of Harvard Way was driven, and trees on the east side of the road near the proposed construction area were inspected. The closest trees to the proposed construction were inspected for potential impact. There is still uncertainty to the actual final design of the trench and construction. Once the final design is completed, the area will be re-assessed to determine if any oak tree impacts will occur.

Summary: The trees closest to the road were inspected and included on the aerial image. There were two oaks found growing in the rock drainage channel between the road and the bike path where a drain brings runoff into the channel. These were the only two protected oaks that could potentially be impacted by the sewer connection, approximately 20 inches of individual trees, depending on the final design. The other oak trees east of the bike path were all found to be growing outside of, and far enough away from, the likely construction area to avoid impact from the excavation alongside the road. Because the final design of the sewer line was not completed, the area where the final design places the sewer line will be re-assessed to determine if any oak trees are impacted.

Observations: The site was visited on Friday, April 26, 2024. The entire route along Silva Valley Parkway was driven. This memo covers the portion from just south of Harvard Way going north to the SMUD corridor. The trees on the east side of Silva Valley Parkway closest to the road and potential construction area were inspected. All of the trees were compared from both the dripline and diameter ratio distance from the potential trench location.

Based on the distance from the proposed sewer construction, there were only two oak trees growing in the rock drainage channel between the bike path and retaining wall and the street with a drain pipe feeding the channel south of the two trees that may be impacted by the potential construction of excavation alongside the road. Those trees ere approximately 20 inches total diameter, 12 and 8 inches. These trees were rated in Fair condition.

The trees were assessed and rated for health and structure, and overall condition considering: bud quality and density; vitality; dieback; root impacts; branch structure, branch attachment, crotch structure, trunk flare, surface roots, decay, insects and diseases, growth habit, any physical damages, lean, and other issues that affect the condition of the trees.

The rating system used for both health, structure, and overall condition is:
0 (0) Dead;
1-20 (1) Very Poor/severe decline; no corrective mitigation
21-40 (2) Poor/Declining; likely no corrective mitigation
41-60 (3) Fair; has defects that can be pruned or maintained and average vigor
61-80 (4) Good; few defects, good vigor and
81-100 (5) Excellent; excellent vigor and crown structure, no significant defects.

Other testing or examination: No further testing or examinations were found necessary at the time of the reinspection.

Discussion: With the exception of the two trees in the drainage channel, all the trees observed were found to be far enough away from the potential trench alongside the road to avoid impacts from construction. The two trees may be impacted totaling 20 diameter inches.

During approved excavation if any roots 2 inches diameter or greater are found to be growing into the trench excavation area from outside the area, root pruning will need to be performed at the edge of the construction area prior to root excavation to avoid tearing of any roots farther toward the tree. The distance from the trunk, and proper root pruning will avoid more than negligible impact to the trees.

Normal tree protection to keep equipment and soil compaction between the trench and the tree will need to be installed prior to construction or grading work.

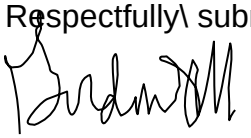
Once the final design of the sewer line is provided, the area where the final design places the sewer line will be re-assessed to determine if any oak trees will be impacted.

Conclusion: With the exception of the two oak trees growing in the drainage ditch, the other oak trees growing on the east side of Silva Valley Parkway from just south of Harvard Wayt north to the SMUD corridor are growing far enough away from the proposed construction area that no impact beyond negligible will occur during the construction work if proper tree protection and root pruning is performed. A final design was not available at the time of the inspection.

Once the final design of the sewer line is provided, the area where the final design places the sewer line will be re-assessed to determine if any oak trees will be impacted.

Please contact me at 650-740-3461, or gordon@mannandtrees.com, if you have any questions about this report or desire any other services for this project.

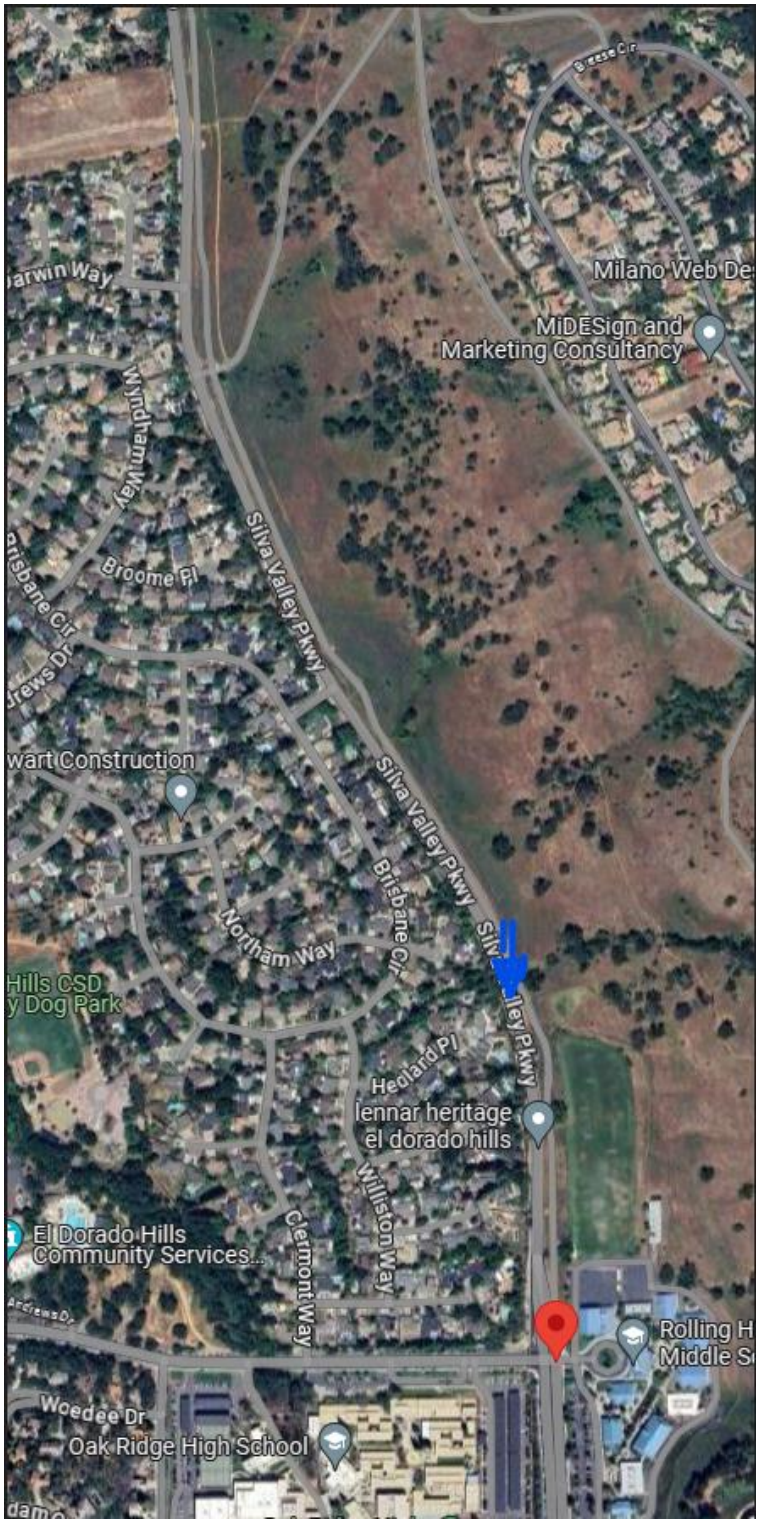
Respectfully\ submitted,



Gordon Mann
Consulting Arborist and Urban Forester
Registered Consulting Arborist #480
ISA Certified Arborist and Municipal Specialist #WE-0151AM
CaUFC Certified Urban Forester #127
ISA Qualified Tree Risk Assessor #1005
Nevada County Fire Safe Council Defensible Space Advisory Training
California Tree and Landscape Consulting, Inc.
Auburn, CA
650-740-3461
gordon@mannandtrees.com
www.caltlc.com

Attachments:
Appendix 1 Images
Assumptions and Limitations
Resume for Gordon Mann
Certificate of Performance

Appendix 1 Images



Silva Valley Parkway from just south of Harvard Way north to the SMUD corridor
The blue arrow is where the two oak trees in the drainage channel were observed.

Street view of Silva Valley Parkway showing two trees growing in the drainage channel

Assignment Assumptions and Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant‘s prior express written consent.
7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant’s fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
9. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing or coring. Consultant makes no warranty or guarantee, express or implied that the problems or deficiencies of the plans or property in question may not arise in the future.
10. Loss or alteration of any part of this Agreement invalidates the entire report.

Report Assumptions and Limitations:

This report provides information about the subject trees at the times of the inspection. Trees and conditions may change over time. This report is only valid for the trees with the conditions present at the times of the inspections. All observations were made while standing on the ground. The inspection consisted of visual observations, using a probe to gain additional information about decay and hollow portions of the tree, and if needed, light excavation was performed to observe shallow depth areas below grade at the base of the trees. No further examinations were requested or performed.

Sincere attempts were made to accurately locate the trees and show the trees on the pan. All tree locations were attempted to be shown as observed in the field.

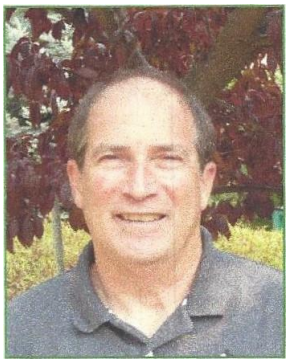
Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist or seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that can fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatments, pruning, and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, landlord-tenant matters, etc. Arborists cannot take such issues into account unless complete and accurate information is given to the arborist. The person hiring the arborist accepts full responsibility for authorizing the recommended treatment or remedial measures.

Trees can be managed, but they cannot be controlled. To live near a tree is to accept some degree of risk. The only way to eliminate all risks is to eliminate all trees. Our company goal is to help clients enjoy life with trees, and grow better trees.

California Tree and Landscape Consulting, Inc.



GORDON MANN

EDUCATION AND QUALIFICATIONS

1977	Bachelor of Science, Forestry, University of Illinois, Champaign.
1982 - 1985	Horticulture Courses, College of San Mateo, San Mateo.
1984	Certified as an Arborist, WE-0151A, by the International Society of Arboriculture (ISA).
2004	Certified as a Municipal Specialist, WE-0151AM, by the ISA.
2011	Registered Consulting Arborist, #480, by the American Society of Consulting Arborists (ASCA).
2003	Graduate of the ASCA Consulting Academy.
2006	Certified as an Urban Forester, #127, by the California Urban Forests Council (CaUFC).
2011	TRACE Tree Risk Assessment Certified, continued as an ISA Qualified Tree Risk Assessor (T.R.A.Q.).

PROFESSIONAL EXPERIENCE

2016 – Present CALIFORNIA TREE AND LANDSCAPE CONSULTING, INC (CalTLC). Vice President and Consulting Arborist. Auburn. Mr. Mann provides consultation to private and public clients in health and structure analysis, inventories, management pianning for the care of trees, tree appraisal, risk assessment and management, and urban forest management plans.

1986 - Present MANN MADE RESOURCES. Owner and Consulting Arborist. Auburn. Mr. Mann provides consultation in municipal tree and risk management, public administration, and developing and marketing tree conservation products.

2015 – 2017 CITY OF RANCHO CORDOVA, CA. Contract CityArborist. Mr. Mann serves as the City's first arborist, developing the tree planting and tree maintenance programs, performing tree inspections, updating ordinances, providing public education, and creating a management plan,

1984 - 2007 CITY OF REDWOOD CITY, CA. City Arborist, Arborist, and Public Works Superintendent.

Mr. Mann developed the Tree Preservation and Sidewalk Repair Program, supervised and managed the tree maintenance program, performed inspections and administered the Tree Preservation Ordinance. Additionally, he oversaw the following Public Works programs: Streets, Sidewalk, Traffic Signals and Streetlights, Parking Meters, Signs and Markings, and Trees.

1982 - 1984CITY OF SAN MATEO, CA. Tree Maintenance Supervisor.
For the City of San Mateo, Mr. Mann provided supervision and management of the tree maintenance program, and inspection and administration of the Heritage Tree Ordinance.

1977 - 1982VILLAGE OF BROOKFIELD, IL. Village Forester.
Mr. Mann provided inspection of tree contractors, tree inspections, managed the response to Dutch Elm Disease. He developed an in-house urban forestry program with leadworker, supervision, and management duties to complement the contract program.

1979 INTERNATIONAL SOCIETY OF ARBORICULTURE. Member.

- Board of Directors (2015 - Present)
- True Professional ofArboriculture Award (2011) o In recognition of material and substantial contribution to the progress of arboriculture and having given unselfishly to support arboriculture.

1982 - Present WESTERN CHAPTER ISA (WCISA). Member.

- Chairman of the Student Committee (2014 - Present)
- Member of the Certification Committee (2007 - Present)
- Member of the Municipal Committee (2009 - 2014) ◦ Award of Merit (2016) In recognition of outstanding meritorious service in advancing the principles, ideals and practices of arboriculture.
- Annual Conference Chair (2012)
- President (1992 - 1993)
- Award of Achievement and President's Award (1990)
- 1985 - Present CALIFORNIA URBAN FORESTS COUNCIL (CaUFC). Member; Board Member (2010 - Present)

1985 - Present SOCIETY OF MUNICIPAL ARBORISTS (SMA). Member. e Legacy Project of the Year (2015) o In recognition of outstanding meritorious service in advancing the principles, ideals and practices of arboriculture.
◦ Board Member (2005 - 2007)

2001 - Present AMERICAN SOCIETY OF CONSULTING ARBORISTS. Member. e Board of Directors (2006 - 2013)
• President (2012)

2001 - Present CAL FIRE. Advisory Position.
• Chairman of the California Urban Forestry Advisory Committee (2014 - Present)

2007 – Present AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI): A300 TREE MAINTENANCE STANDARDS COMMITTEE. SMA Representative and Alternate.

- Alternative Representative for SMA (2004 - 2007; 2012 - Present)
- Representative for SMA (2007 - 2012)

2007 - Present SACRAMENTO TREE FOUNDATION. Member and Employee.

- Co-chairman of the Technical Advisory Committee (2012 - 2018), member 2018- present
- Urban Forest Services Director (2007 - 2009)
- Facilitator of the Regional Ordinance Committee (2007 - 2009)

1988 - 1994 TREE CLIMBING COMPETITION. Chairman.

- Chairman for Northern California (1988 - 1992)
- Chairperson for International (1991 - 1994)

PUBLICATIONS AND LECTURES

Mr. Mann has authored numerous articles in newsletters and magazines such as Western Arborist, Arborist News, City Trees, Tree Care Industry Association, Utility Arborists Association, CityTrees, and Arborists Online, covering a range of topics on Urban Forestry, Tree Care, and Tree Management. He has developed and led the training for several programs with the California Arborist Association. Additionally, Mr. Mann regularly presents at numerous professional association meetings on urban tree management topics.

Certificate of Performance

I, Gordon Mann, certify that:

I have personally inspected the trees and site referred to in this report and have stated my findings accurately. The extent of the inspection is stated in the attached report under Assignment;

I have no current or prospective interest in the vegetation, or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved;

The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts;

My analysis, opinions, and conclusions were developed, and this report has been prepared according to commonly accepted arboricultural practices;

No one provided significant professional assistance to me, except as indicated within the report;

My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client, or any other party, nor upon the results of the assignment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of the International Society of Arboriculture (ISA) and an ISA Certified Arborist and Municipal Specialist. I am also a Registered Consulting Arborist member in good standing of the American Society of Consulting Arborists. I have been involved in the practice of arboriculture and the care and study of trees for over 45 years.

Signed:

Gordon Mann
Date: May 7, 2024

Evaluation of Potential California Red-Legged Frog (*Rana aurora draytonii*) Habitat on the Dixon Ranch Subdivision Project El Dorado County, California

Prepared by:

Eric C. Hansen
Consulting Environmental Biologist
4200 N. Freeway Boulevard, Suite 4
Sacramento, CA 95834

For:

Dixon Ranch Partners, LLC
949 Tuscan Lane
Sacramento, California 95864

September 9, 2013

Evaluation of Potential California Red-Legged Frog (*Rana aurora draytonii*) Habitat on the Dixon Ranch Subdivision Project, El Dorado County, California

INTRODUCTION

This report provides the results of California red-legged frog (*Rana aurora draytonii*) habitat suitability assessments on the Dixon Ranch Subdivision Project site (project site), located south of Green Valley Road in El Dorado County, California. A site visit was conducted for this purpose on 22 April 2013. The Louie Ponds consist of two contiguous impoundments situated in the Green Springs Creek corridor totaling approximately 3.8 acres in combined surface area. In order to provide an adequate regional perspective, an approximately 301-acre study area established during prior wetland delineations and rare plant species assessments (Gibson & Skordal 2011, 2012) were used to complete the assessment. The study area is located in Section 24, township 10 North, Range 8 East; Section 19, Township 10 North, Range 9 East, MDB&M, El Dorado County, California. The study area ranges from approximately 950-feet to 1240 feet in elevation, can be found at UTM 670,016 M E; 4,285,698 M N (Zone 10 North), and is portrayed on the Clarksville, California 7.5-Minute Series Topographic Quadrangle. Locator, vicinity, and detail maps are included in Figure 1 and Figure 2.

To access the site from Sacramento, drive east on Highway 50 into El Dorado County and exit to the north onto El Dorado Hills Boulevard, travel north on El Dorado Hills Boulevard, and then turn right onto Green Valley Road. Continue east on Green Valley Road until reaching West Green Springs Drive. The study area is located southeast of the West Green Springs Drive-Green Valley Road intersection. Existing or approved adjacent subdivisions include Green Springs Ranch to the east and southeast, Serrano to the southwest, and Highland View to the west.

The project site contains habitats suitable for California red-legged frogs, possessing both the aquatic and upland terrestrial habitats required by the species; however, the number of reported California red-legged frog occurrences in El Dorado County is low. No California red-legged frog locality records fall within one mile (1.6 km) of the project site Only one California red-legged frog locality record, consisting of one unverified juvenile frog (California Natural Diversity Database [CNDDB] Occurrence Number 814) falls within 2.8 miles (4.5 km) of the project site (CNDDB 2013). With the exception of the unverified juvenile frog reported near Folsom Lake, all California red-legged frogs recorded in this region of the Sierra Nevada occur above 2,000 feet, well above the approximately 1,050-foot mean elevation of the project site. While the project site contains habitat suitable for red-legged frogs, the presence of bullfrogs and predatory gamefish, distance from verified populations of red-legged frogs, and low site elevation relative to regional frog populations reduce the likelihood that red-legged frogs occur on the project site. The methodologies used to complete this assessment are presented below, and maps of regional species distribution are included as figures. Photographs of pertinent features and completed habitat assessment forms are included as Appendices A and B, respectively.

FIGURE 1. VICINITY MAP

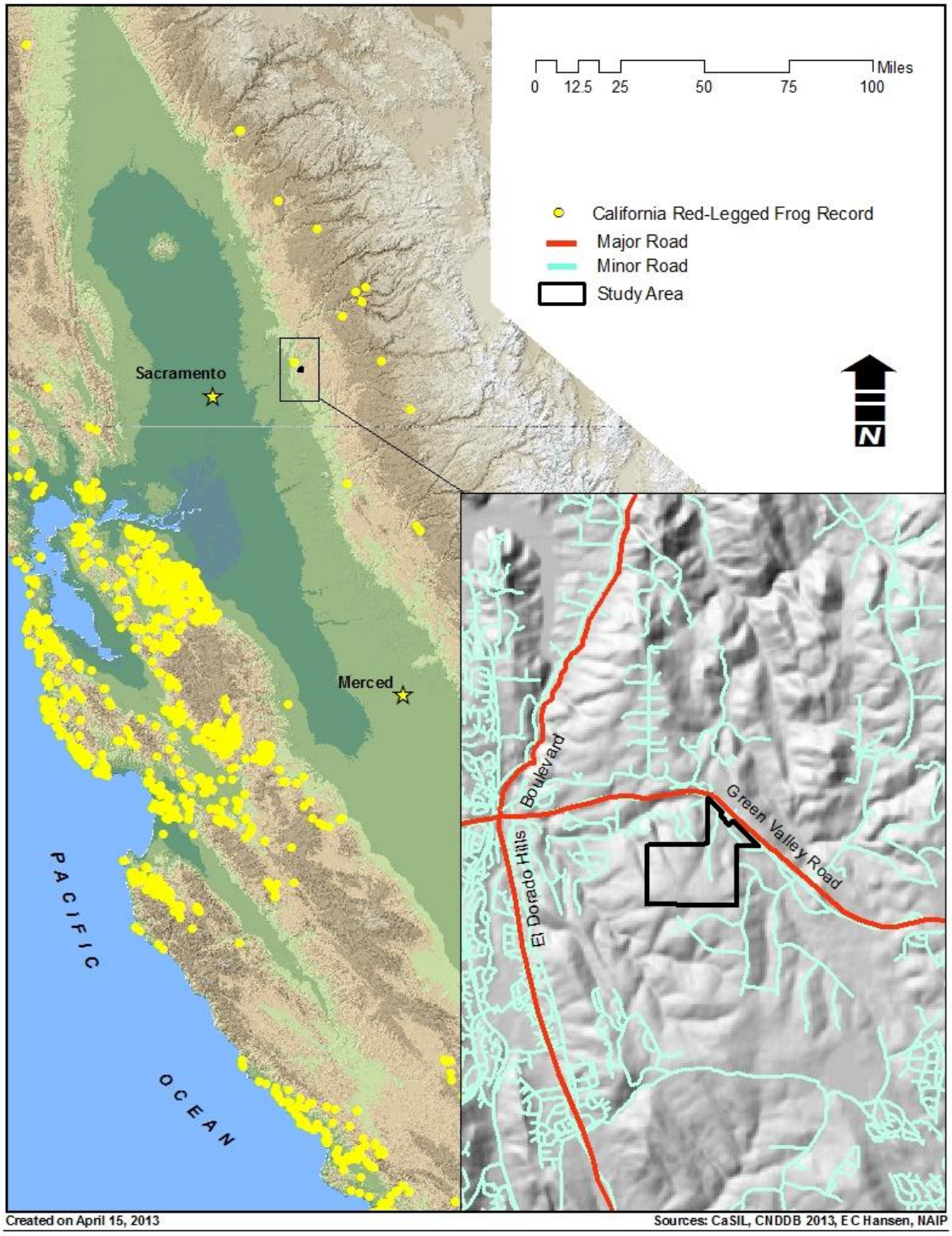
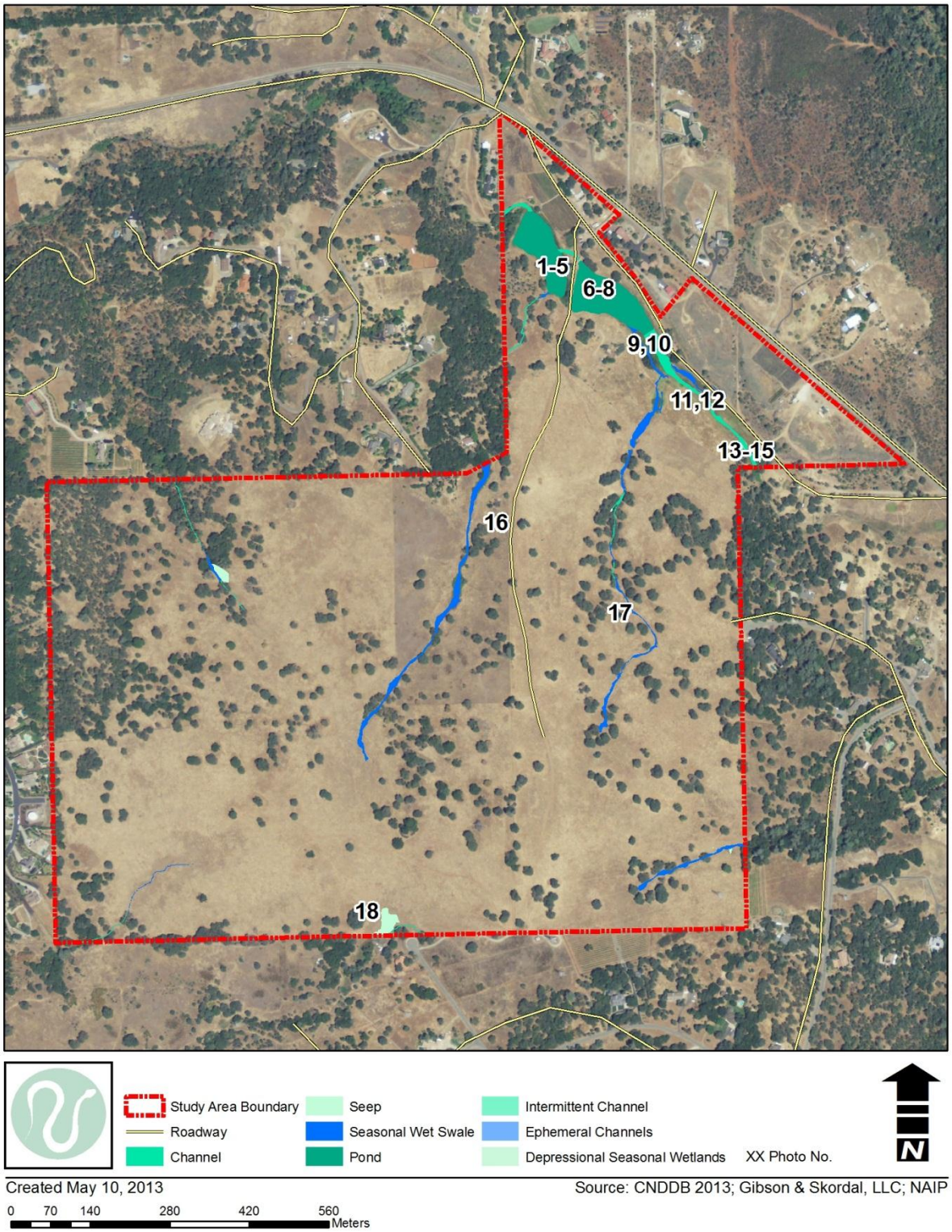


FIGURE 2. STUDY AREA DETAIL AND KEY TO PHOTOGRAPHS



HABITAT ASSESSMENT

Legal Status

The California red-legged frog was federally listed as Threatened on June 24, 1996 and is designated as a California Species of Special Concern.

Life History

This species is a lowland and foothill frog inhabiting moist environments from sea level to 2,440 meters (8,000 feet) (Stebbins 2003). It frequents the permanent cool waters of ponds, lakes, reservoirs, and streams offering dense shrubbery and emergent vegetation, such as cattails (*Typha* sp.), that provide cover and protection from predators. Red-legged frogs may disperse far from water to moist wooded areas following breeding. Individuals may engage in overland movements of up to 3.2 kilometers (2 miles) (Stebbins 2003).

The breeding period is short, often lasting only 1 to 2 weeks, usually from January to April, depending upon the locality and seasonal weather conditions. Larvae generally require 4 to 5 months to attain metamorphosis. Exotic species such as bullfrogs (*Lithobates catesbeianus*) and green sunfish (*Lepomis cyanellus*) compete with and prey upon red-legged frogs.

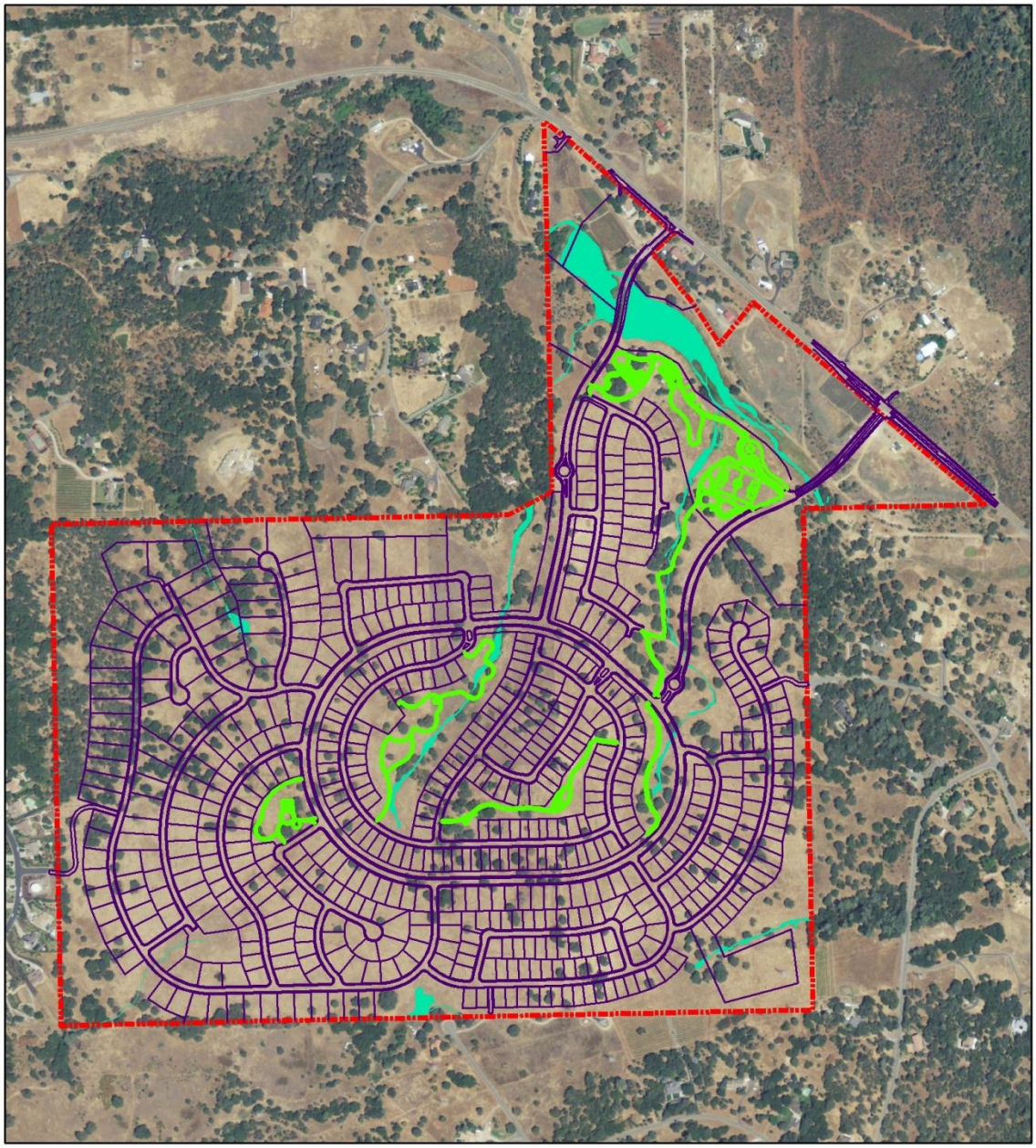
Proposed Action

Project Description

The Dixon Ranch Project proposes to subdivide 280+/- acres into 444 single family detached residential units, 160 age-restricted single family detached units (age restricted to older adults), and includes retention of one existing single family residence for a total of 604 new units and one existing unit. The project includes preservation or creation of 84.1+/- acres (30%) of open space including parks, trails, landscaped lots, and native open spaces. The project includes on-site and off-site infrastructure to serve the development. Construction of a clubhouse for the age-restricted units is also proposed. Build-out will likely occur over many years, but ultimately will be dictated by market demands. The proposed development plan is shown in Figure 3.

Required project approvals include: a General Plan Amendment (File No. A11-0006); Zone Change (File No. Z11-0008); Planned Development (File No. PD11-0006); Tentative Map (File No. TM11-1505); annexation into the El Dorado Irrigation District; annexation into the El Dorado Hills Community Service District; and annexation into the El Dorado Hills County Water District (El Dorado Hills Fire Department).

FIGURE 3. PROPOSED DEVELOPMENT PLAN



Created September 13, 2013

Source: CNDDB 2013; Gibson & Skordal, LLC; CTA Engineering; NAIP

General Plan Amendment Description

The project is currently located entirely within the General Plan Community Region (urban limit line) of El Dorado Hills and is designated as Low Density Residential (LDR) land use, with the exception of 1.5+/- acres at the southeast corner of the property that is designated as Open Space (OS) and associated with the existing SMUD power transmission corridor. LDR allows for a maximum density of 1 dwelling unit per 5 acres. The proposed project is applying for a change in the land use designations on the site to High Density Residential (HDR) allowing for a density range of 1 to 5 units per acre; Medium Density Residential (MDR) allowing for a maximum of 1 dwelling unit per acre; and Open Space (OS). The proposed project is retaining the existing Low Density Residential (LDR) land use designation for the existing residence to remain.

Planned Development Description

The project is a planned development. Proposed uses within the project are as follows:

1) 444 single family detached residential units with lot sizes ranging from 5,775 sf to 3.32 ac

Product Type	Qty	Land Use
Village Small Lot	149	HDR
Village Large Lot	173	HDR
Hillside	54	HDR
Hillside Custom	58	HDR
Estate Residential	5	MDR
Estate Residential Large Lot	5	MDR
	444	

2) 160 age-restricted single family detached residential units with lot sizes ranging from 4,725 sf to 12,685 sf

Product Type	Qty	Land Use
Age-Restricted Small Lot	80	HDR
Age-Restricted Large Lot	80	HDR
	160	

3) One existing Low Density Residential (LDR) unit to remain.
4) One Clubhouse lot (Lot C)
5) One EID lot for a proposed pump station
6) Public and private roadways
7) 84.1+/- acres or 30% total open space, including native open space, parks and landscape lots.
    a. Includes 11.14 acres of Parks including:
        - One Village Park (Lot A)
        - One Neighborhood Park (Lot B)

Lighting

Outdoor lighting in conformance with Section 17.14.170 of the County Ordinance Code is anticipated to be provided at major intersections, mid-block pedestrian crossings, along sag vertical curves where needed to establish adequate sight distance and as appropriate for public safety. Limited safety and security lighting and indirect shielded lighting will also be provided at park sites, gates and clubhouse including but not limited to parking areas, play areas, and walkways where appropriate. The project does not propose to use lighted ball fields or other light intensive uses at the proposed park sites.

Existing Field Conditions

The project site is situated in the foothills of the Sierra Nevada on rolling to relatively flat terrain at an average elevation of about 1,050 feet. The project site is primarily used as pasturage and currentlycontains two habitable structures. Newer residential developments are located to the west while ranchettes occupy lands to the north and east. The site was very lightly grazed by cattle and horses at the time of field surveys.

The majority of the site generally drains to the north/northeast into Green Spring Creek. Green Spring Creek, which traverses the northern portion of the study area from east to west, is tributary to Folsom Reservoir by way of New York Creek. The southwestern corner of the parcel appears to drain to the south towards Allegheny Creek which is located outside of the study area boundary. Allegheny Creek is also tributary to Folsom Reservoir by way of Green Spring Creek and New York Creek, respectively.

Methods

A field assessment was conducted on 22 April 2013 according to U.S. Fish and Wildlife Service (USFWS) guidelines (April 4, 1997 Memorandum 1-1-97-TA-1093 Dissemination of Interim Guidance on Site Assessment and Field Surveys for California Red-Legged Frogs; August 2005 Revised Guidance on Site Assessment and Field Surveys for California Red-Legged Frogs). These guidelines require that in assessing the likelihood that California red-legged frogs may occur at a given locale, information satisfying the following elements should be compiled and submitted to USFWS for further evaluation and guidance:

Element 1. Is the project within the current or historic range of the California red-legged frog?

Element 2. What are the known localities of California red-legged frog within the project site and within 1 mile (1.6 kilometers) (km) of the project boundaries? This is to place the project in regional perspective.

Element 3. What are the habitats within the project site and within 1 mile (1.6 km) of the project boundaries?

To satisfy these elements, first, California red-legged frog locality records were obtained by conducting a computer search of the most recent version of the CNDDB (2013). Next, to place the project in regional perspective, records falling within 1- and 30-mile (1.6 and 48.3-kilometer) radii of the project site were identified using the Geographic Information Systems (GIS) program ArcMap 9.2. GIS-generated maps are used to illustrate red-legged frog distribution relative to the project site (see Figure 1, Figure 3). Finally, habitats within and surrounding the project site were identified using a combination of site plans, field surveys, and GIS analysis using digitized USGS 7.5-minute topographic maps and digital orthographic quarter quadrangle (DOQQ) maps (digitized aerial maps) from the California Spatial Information Library (http://gis.ca.gov/).

While specific protocol level field surveys for California red-legged frogs were not conducted as part of this assessment, cursory field surveys for other special-status reptiles and amphibians were conducted incidental to this assessment, particularly for those species frequently associated with habitats favored by California red-legged frogs. Results are provided below.

Results

Element 1 — The project site is situated at the edge of the easterly extent of the California red-legged frog's historical range along the western slopes of the Sierra Nevada, which extends from Plumas County south to Tuolumne County (Jennings and Hayes 1994, CNDDB 2013).

Element 2 —The project site lies approximately 2.8 mile (4.5 km) from the (unverified) juvenile frog reported on the east side of Folsom Lake, southwest of Iron Mountain, 17.7 miles (28.5 km) from undisclosed localities in El Dorado County (Georgetown Quad), and 23.6 miles (40.0 km) from the other two verified populations of California red-legged frogs extant in this portion of the Sierra Nevada (Michigan Bluff area and Weber Creek) (CNDDB 2013). All other records documented within El Dorado County and adjacent Placer County fall more than 25 miles (40.2 km) from the project site; records are reported in Table 1 and are depicted in Figure 1 and Figure 4.

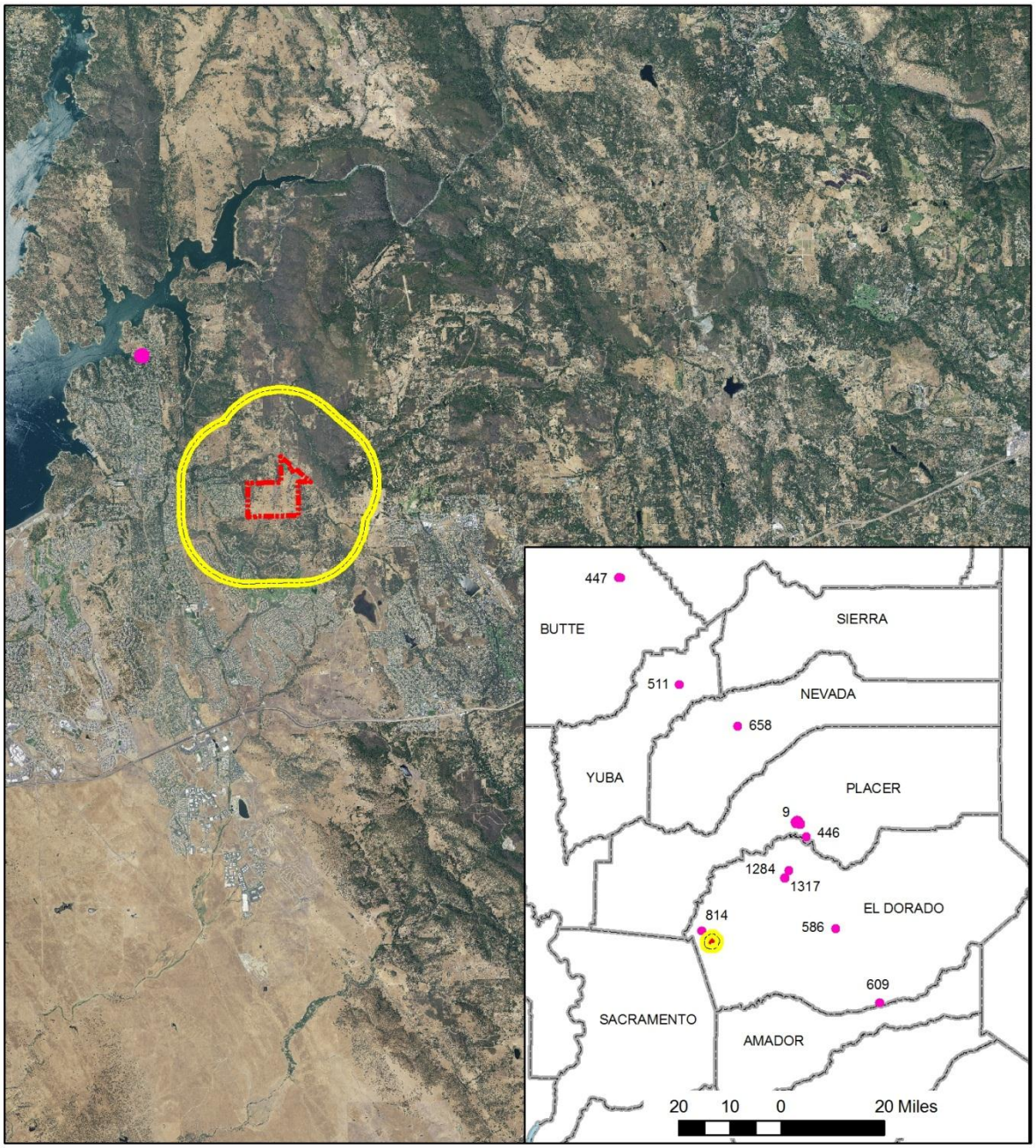
Element 3 — Habitats associated with Green Springs Creek possess both aquatic and upland characteristics suitable for California red-legged frogs. Aquatic habitats consist of interconnected streams, swales, and associated wetlands. Terrestrial habitats consist mostly of foothill oak woodland. Habitats are described in detail below. Photographs of selected site features are included in Appendix A.

Table 1. CNDDB occurrence records within approximately 50 miles (80.5 km) of the project site

Occ. No.	USGS 7.5' Topographic Quadrangle	Township	Range	Section	County	Year Last Seen	Approx.Distance from Project Site	Elevation
9	Michigan Bluff	14N	11E	21	Placer	Pre-1951	28.6 mi	3,400 ft
446	Michigan Bluff	13N	11E	01	Placer	2001	26.7 mi	3,200 ft
511	Challenge	18N	07E	10	Yuba	2003	50.4 mi	2,100 ft
586	Sly Park	10N	12E	01	El Dorado	2002	23.6 mi	3,200 ft
609	Caldor	18N	14E	21	El Dorado	2002	34.4 mi	4,200 ft
658	North Bloomfield	17N	09E	27	Nevada	2007	42.3 mi	3,050 ft
814	Clarksville	10N	08E	10	El Dorado	2005	2.8 mi	800 ft
890*	Michigan Bluff	--	--	--	Placer	2006	28.9 mi	--
1284	Georgetown	--	--	--	El Dorado	2009	19.3 mi	--
1317	Georgetown	--	--	--	El Dorado	2009	17.7 mi	--

*Details for records displayed in red are suppressed in the commercial version of the CNDDB

FIGURE 4. PROJECT SITE RELATIVE TO CNDDB OCCURRENCE RECORDS



Created May 10, 2013

Source: CNDDB 2013; NAIP

Habitats within 1 mile (1.6 km) of the Project Site

Plant Communities

Plant communities are described by Gibson & Skordal (2011). The study area encompasses several habitat types including non-native annual grasslands, foothill oak savannah/woodland, and numerous water features including agricultural ponds, intermittent and ephemeral drainages, seasonal wetlands, and seeps. The majority of the site supports oak savannah/woodland composed of valley oaks (*Quercus lobata*), live oaks (*Quercus wislizenii*), and blue oaks (*Quercus douglasii*).

The understory consists of dogtail (*Cynosurus echinatus*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), medusa head (*Taeniatherum caput-medusae*), and soft chess (*Bromus hordeaceus*). Interspersed between the oak woodlands/savannah are areas of non-native annual grasslands characterized by wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), and medusa-head (*Taeniatherum caput-medusae*). Other common species include yellow start-thistle (*Centaurea solstitialis*), perennial rye grass (*Lolium perenne*), little quacking grass (*Briza minor*), soft chess (*Bromus hordeaceus*), prickly lettuce (*Lactuca serriola*), and split-leaf geranium (*Geranium dissectum*).

Hydrology

Wetland components are described by Gibson & Skordal (2012). Green Springs Creek and two in-channel impoundments referred to as the Louie Ponds represent the largest water features within the study area. Green Springs Creek and its associated ponds contained several inches of flowing water and supported thick growths of hardstem bulrush (*Scirpus acutus*), creeping spike rush (*Eleocharis macrostachya*), and narrow-leaf cattails (*Typha angustifolia*). Woody vegetation consisted of cottonwoods (*Populus fremontii*) and narrow-leaf willow (*Salix exigua*). Several wetland swale-seep complexes are located within the hillier southern portion of study area. Seeps are most often associated with sloping terrain and derived primarily from groundwater seepage in the winter and spring, while seasonal wetland swales represent vegetated linear sloping drainages that lack a defined bed and bank. Common species included Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), curly dock (*Rumex crispus*), perennial rye grass (*Lolium perenne*), water cress (*Rorippa nasturtium-aquaticum*), tall flat sedge (*Cyperus eragrostis*), and spiny-fruited buttercup (*Ranunculus muricatus*). Photographs of the individual features are provided in Appendix A.

Soils

According to the April 1974, "**Soil Survey of El Dorado Area, California**," four soil map units occur within the study area: Auburn very rocky silt loam, 2-30 percent slopes (AxD), Auburn silt loam, 2-30 percent slopes (AwD), Placer diggings (PrD), and Serpentine Rock Land (SaF).

Observed Species

Adult bullfrogs and juvenile Centrarchid fishes (*Lepomis* spp.) were observed within Green Springs Creek and the Louie Ponds; both species can compete with and prey upon red-legged frogs. Larval Western toad (*Bufo boreas*) and Sierran treefrog (Formerly *Pseudacris regilla* - Pacific Treefrog) were also observed, but neither are known to adversely affect red-legged frogs.

SUMMARY

Permanent, suitable red-legged frog habitat is present on the project site within Green Springs Creek and the associated impoundment referred to as the Louie Ponds. Although drainage features on-site are characterized as ephemeral or intermittent, they also provide potential habitat for dispersing red-legged frogs when they are flowing or when they possess pooled water following winter and spring rains. Although no red-legged frogs were observed during the field surveys, there is ample supporting habitat on the project site.

Adult bullfrogs and juvenile Centrarchid fishes (*Lepomis* spp.) were observed within Green Springs Creek and Louie Pond, both of which can compete with and prey upon red-legged frogs. Larval Western toad (*Bufo boreas*) and Sierran treefrog (Formerly *Pseudacris regilla* - Pacific Treefrog) were also observed, but neither are known to adversely affect red-legged frogs.

The regional presence of California red-legged frogs remains unverified. A juvenile (unverified) California red-legged frog was reported in 2005 within 2.8 miles (4.5 km) of the Proposed Project from a drainage at the end of Fitch Way, on the east side of Folsom Lake, southwest of Iron Mountain and north of Highway 50 (CNDDB 2013), but no others are reported from the immediate vicinity. California red-legged frogs have been verified in recent years in El Dorado County in Weber Creek, near Placerville (early 1990s) (Miriam Green Associates 1996, CNDDB 2013), in southern Placer County near Georgetown, and in Placer County near Michigan Bluff, but no verified populations are reported within 17.7 miles (28.5 km) of the project site. With the exception of the unverified juvenile frog reported near Folsom Lake, all California red-legged frogs recorded in this region of the Sierra Nevada occur above 2,000 feet, well above the approximately 1,050-foot mean elevation of the project site.

In closing, while the project site contains habitat suitable for red-legged frogs, the presence of bullfrogs and predatory gamefish, distance from verified populations of red-legged frogs, and low site elevation relative to regional frog populations reduce the likelihood that red-legged frogs occur on the project site.

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Stebbins, R.C. 2003. A field guide to western reptiles and amphibians. 3rd edition. Houghton Mifflin Co.

Appendix A: Photographs

1. Outflow to lower pond (NW).

2. Lower pond (WNW).

3. Lower pond showing vegetation at center crossing (NW).

4. S side lower pond showing edge characteristics - center crossing in background (NNE).

5. S side of lower pond showing edge characteristics - center crossing in background (NW).

6. One of many adult bullfrogs observed in upper pond (east end).

7. Outflow from upper pond (E end) (SE).

8. Lower pond showing vegetation at center crossing (SE).

9. Gravel-bottomed channel of Green Springs Creek flowing into upper pond (NW). Hardstem bulrush in background.

10. Gravel-bottomed channel of Green Springs Creek flowing into upper pond (SE). Hardstem bulrush in background.

11. Overhanging vegetation (*Rubus* spp.) along the margin of Green Springs Creek (W).

12. Intermittent riffles along Greens Creek (ESE).

13. Green Springs Creek at the E end of the project site (WNW).

14. Green Springs Creek upstream of the E end of the project site (SE).

15. Western toad larvae in Green Springs Creek at the E end of the project site.

16. Seasonal wet swale at the W center of the project site (see Figure 2).

17. Seasonal wet swale at the E center of the project site (see Figure 2).

18. Depressional seeps at the southern edge of the project site (see Figure 2).

Appendix B

California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 04/22/2013
(mm/dd/yyyy)

Site Assessment Biologists: Hansen, Eric _____
(Last name) (first name) (Last name) (first name)

_____ _____
(Last name) (first name) (Last name) (first name)

Site Location: **El Dorado County, Dixon Ranch Project, UTM 670,016 E; 4,285,698 N (Zone 10 N)**
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Dixon Ranch Subdivision Project
Brief description of proposed action: The Dixon Ranch Project proposes to subdivide 280+/- acres into 444 single family detached residential units, 160 age-restricted single family detached units (age restricted to older adults), and includes retention of one existing single family residence for a total of 604 new units and one existing unit. The project includes preservation or creation of 84.1+/- acres (30%) of open space including parks, trails, landscaped lots, and native open spaces. The project includes on-site and off-site infrastructure to serve the development. Construction of a clubhouse for the age-restricted units is also proposed. Build-out will likely occur over many years, but ultimately will be dictated by market demands.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO

If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 3.8 acres (2.1 acre and 1.7 acres per pond section) Maximum depth: < 4m

Vegetation: Green Springs Creek and its associated ponds contained several inches of flowing water and supported thick growths of hardstem bulrush (Scirpus acutus), creeping spike rush (Eleocharis macrostachya), and narrow-leaf cattails (Typha angustifolia). Woody vegetation consisted of cottonwoods (Populus fremontii) and narrow-leaf willow (Salix exigua).

Substrate: sand, rock, and cobble

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry:_____

Ponds

Appendix B

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: N/A

Depth at bank full: N/A

Stream gradient: _____

Are there pools (circle one)? YES NO (dry at time of site visit)

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs (see Appendix A, photos 1-8)
3. Maps with important habitat features and species location (see Figure 2)

Ponds

California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 04/22/2013
(mm/dd/yyyy)

Site Assessment Biologists: Hansen, Eric
(Last name) (first name) **(Last name) (first name)**

(Last name) (first name) **(Last name) (first name)**

Site Location: **El Dorado County, Dixon Ranch Project, UTM 670,016 E; 4,285,698 N (Zone 10 N)**
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Dixon Ranch Subdivision Project
Brief description of proposed action: The Dixon Ranch Project proposes to subdivide 280+/- acres into 444 single family detached residential units, 160 age-restricted single family detached units (age restricted to older adults), and includes retention of one existing single family residence for a total of 604 new units and one existing unit. The project includes preservation or creation of 84.1+/- acres (30%) of open space including parks, trails, landscaped lots, and native open spaces. The project includes on-site and off-site infrastructure to serve the development. Construction of a clubhouse for the age-restricted units is also proposed. Build-out will likely occur over many years, but ultimately will be dictated by market demands.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO

If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: N/A Maximum depth: N/A

Vegetation: _____

Substrate: _____

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: _____

Green Springs Creek

Appendix B

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: ± 4 meters

Depth at bank full: < 0.5 meter

Stream gradient: <1%

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: ± 100 meters^2

Maximum depth of stream pools: <0.5 meter

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: Green Springs Creek and its associated ponds contained several inches of flowing water and supported thick growths of hardstem bulrush (*Scirpus acutus*), creeping spike rush (*Eleocharis macrostachya*), and narrow-leaf cattails (*Typha angustifolia*). Woody vegetation consisted of cottonwoods (*Populus fremontii*) and narrow-leaf willow (*Salix exigua*).

Substrate: mixed soil and cobble

Bank description: mixed slope to undercut with open sand and gravel as well as well as woody and herbaceous vegetation

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: Unknown

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs (see Appendix A, photos 9-15)
3. Maps with important habitat features and species location (see Figure 2)

Green Springs Creek

Appendix B

California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 04/22/2013
(mm/dd/yyyy)

Site Assessment Biologists: Hansen, Eric _____
(Last name) (first name) (Last name) (first name)

_____ _____
(Last name) (first name) (Last name) (first name)

Site Location: **El Dorado County, Dixon Ranch Project, UTM 670,016 E; 4,285,698 N (Zone 10 N)**
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

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Brief description of proposed action: The Dixon Ranch Project proposes to subdivide 280+/- acres into 444 single family detached residential units, 160 age-restricted single family detached units (age restricted to older adults), and includes retention of one existing single family residence for a total of 604 new units and one existing unit. The project includes preservation or creation of 84.1+/- acres (30%) of open space including parks, trails, landscaped lots, and native open spaces. The project includes on-site and off-site infrastructure to serve the development. Construction of a clubhouse for the age-restricted units is also proposed. Build-out will likely occur over many years, but ultimately will be dictated by market demands.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO

If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: _____ Maximum depth: _____

Vegetation: _____

Substrate: _____

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: _____

Seasonal Wetland Swales

Appendix B

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: <2 meters

Depth at bank full: N/A

Stream gradient: <5%

Are there pools (circle one)? YES NO (dry at time of site visit)

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: observed seasonal wetland swales represent vegetated linear sloping drainages that lack a defined bed and bank. Common species included Mediterranean barley (Hordeum marinum ssp. gussoneanum), curly dock (Rumex crispus), perennial rye grass (Lolium perenne), water cress (Rorippa nasturtium-aquaticum), tall flat sedge (Cyperus eragrostis), and spiny-fruited buttercup (Ranunculus muricatus).

Substrate: _____

Bank description: _____

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: Unknown

Other aquatic habitat characteristics, species observations, drawings, or comments:
Dry at reaches viewed during this 22 April 2013 field visit. Described by Gibson & Skordal (2012) as ephemeral features.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs (see Appendix A, photos 16-18)
3. Maps with important habitat features and species location (see Figure 2)

Seasonal Wetland Swales

Evaluation of Potential California Red-Legged Frog (*Rana aurora draytonii*) Habitat and Presence for the Dixon Ranch Subdivision Project, El Dorado County, California

Prepared by:

Eric C. Hansen
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For:

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August 25, 2016

Evaluation of Potential California Red-Legged Frog (*Rana aurora draytonii*) Habitat and Presence for the Dixon Ranch Subdivision Project, El Dorado County, California

INTRODUCTION

This report provides results of protocol-level species surveys conducted for the California red-legged frog (*Rana aurora draytonii*) on the Dixon Ranch Subdivision Project site (project site), located south of Green Valley Road in El Dorado County, California. A site visit was conducted for the purpose of assessing habitat suitability on 22 April 2013 and conditions were verified on June 5, 2015. A habitat assessment report was provided to the U.S Fish and Wildlife Service (Service) Forest Foothills Division on May 5, 2015[1]. Site conditions were validated on June 5, 2015. While formal guidance has not yet been provided, prior conversations with Mr. Chris Nagano suggest that presence of suitable habitat relative to regional species records likely warrant species-level surveys for sites in this region. As a proactive step to provide additional information while the Service reviewed the project, protocol species-level (breeding season) surveys were conducted in June of 2015. Although species-level surveys were not initiated in time to complete them in full by June 30, a report of interim findings was prepared on July 18, 2015[2] with the intention of providing results facilitating U.S Fish and Wildlife Service guidance on the project.

As stated in the May 5, 2015 habitat assessment report, the project site contains habitats suitable for California red-legged frogs, possessing both the aquatic and upland terrestrial habitats required by the species; however, the number of reported California red-legged frog occurrences in El Dorado County is low. The suitable habitats on the project site consist of two contiguous pond impoundments situated in the Green Springs

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[1] *Evaluation of Potential California Red-Legged Frog (Rana aurora draytonii) Habitat on the Dixon Ranch Subdivision Project*
El Dorado County, California . Prepared by Eric C. Hansen, Consulting Environmental Biologist, 4200 N. Freeway Boulevard, Suite 4, Sacramento, CA 95834. Prepared for Dixon Ranch Partners, LLC, 949 Tuscan Lane, Sacramento, California 95864. September 9, 2013.

2 *Evaluation of Potential California Red-Legged Frog (Rana aurora draytonii) Habitat and Presence for the Dixon Ranch Subdivision Project, El Dorado County, California*. Prepared by Eric C. Hansen, Consulting Environmental Biologist, 4200 N. Freeway Boulevard, Suite 4, Sacramento, CA 95834. Prepared for Dixon Ranch Venture. LLC, 12647 Alcosta Boulevard, Suite 470, San Ramon, CA 94583. July 18, 2015.

Creek corridor totaling approximately 3.8 acres in combined surface area, and the Green Springs Creek corridor. Locator, vicinity, and detail maps are included in Figures 1 and 2.

The methodologies used to complete assessments and surveys are presented below, and maps of regional species distribution are included as figures. Photographs of pertinent features and completed habitat assessment and species-level survey forms are included as Appendices A, B and C, respectively.

FIGURE 1. VICINITY MAP

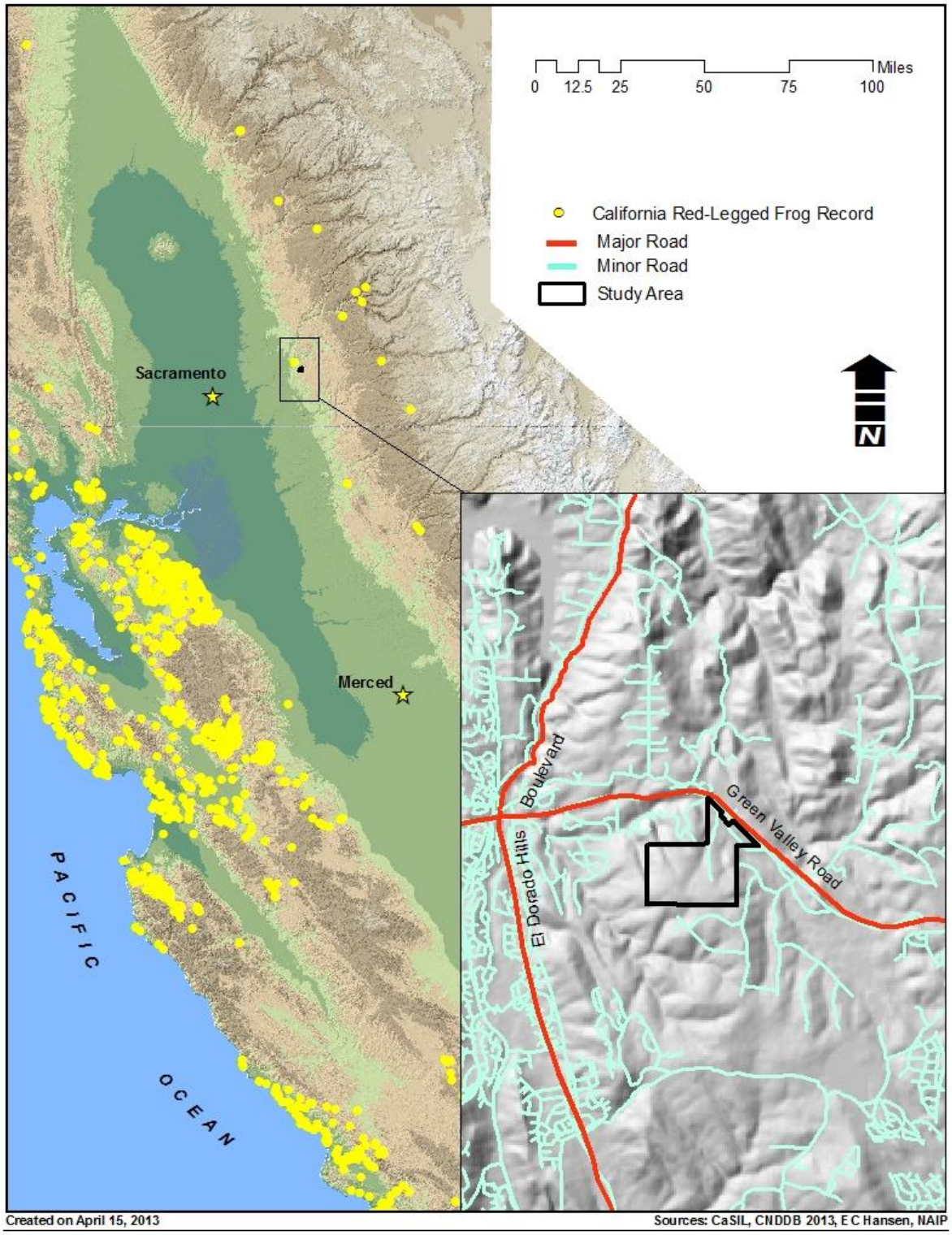
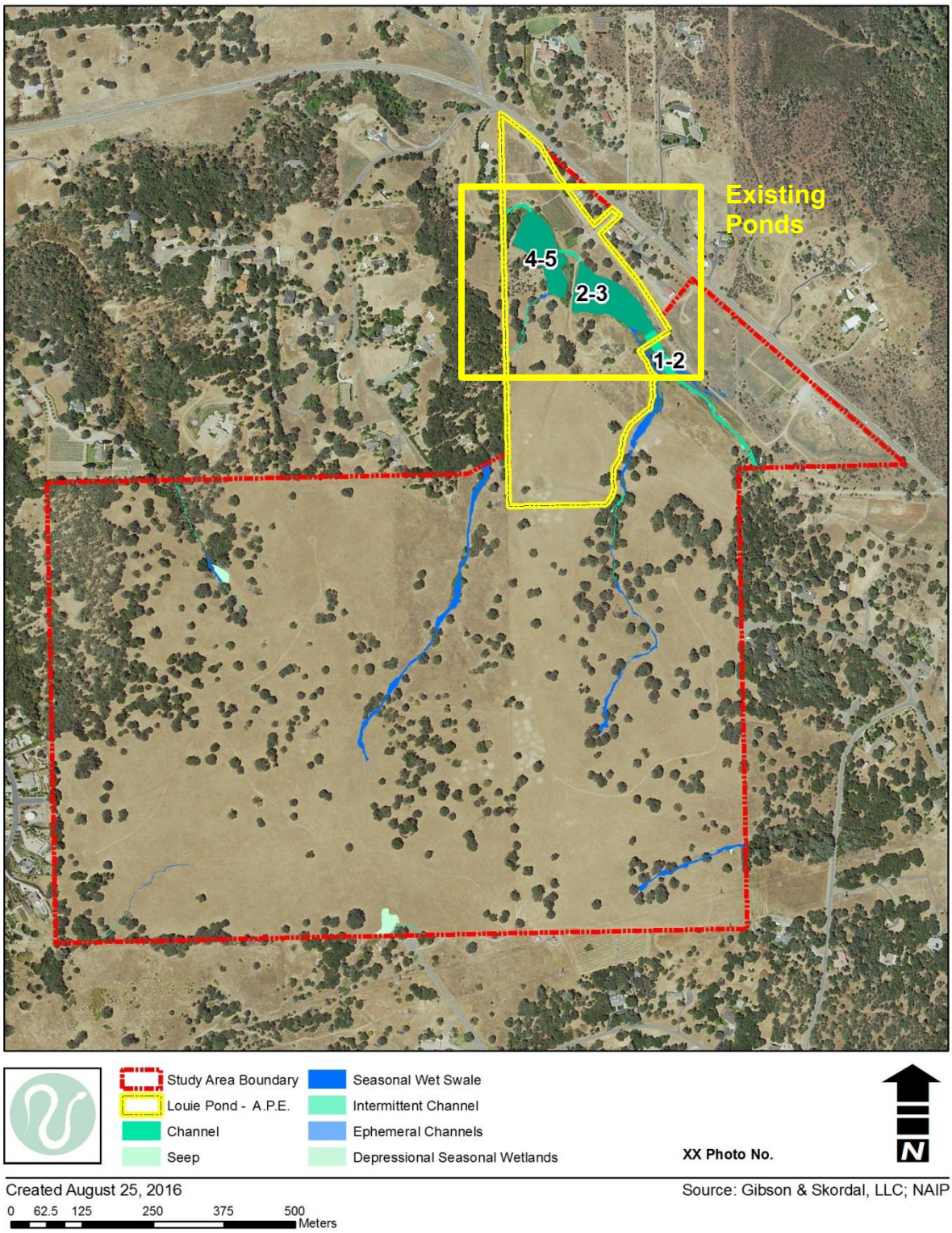


FIGURE 2. STUDY AREA DETAIL AND KEY TO PHOTOGRAPHS



PROJECT AREA LOCATION, BACKGROUND, AND EXISTING CONDITIONS

Green Springs Creek runs through the project site generally east to west, and the existing ponds on the project site consist of two contiguous impoundments situated in the Green Springs Creek corridor totaling approximately 3.8 acres in combined surface area. The study area is located in Section 24, township 10 North, Range 8 East; Section 19, Township 10 North, Range 9 East, MDB&M, El Dorado County, California. The study area can be found at UTM 670,016 M E; 4,285,698 M N (Zone 10 North) and is portrayed on the Clarksville, California 7.5-Minute Series Topographic Quadrangle. In order to provide an adequate regional perspective, an approximately 301-acre study area established during prior wetland delineations and rare plant species assessments (Gibson & Skordal 2011, 2012) were used to complete the habitat assessment. To access the site from Sacramento, drive east on Highway 50 into El Dorado County and exit to the north onto El Dorado Hills Boulevard, travel north on El Dorado Hills Boulevard, and then turn right onto Green Valley Road. Continue east on Green Valley Road until reaching West Green Springs Drive. The study area is located southeast of the West Green Springs Drive-Green Valley Road intersection.

PROPOSED ACTION

The Dixon Ranch project proposes to subdivide 280+/- acres into 444 single family detached residential units, 160 age-restricted single family detached units (age restricted to older adults), and includes retention of one existing single family residence for a total of 604 new units and one existing unit. The project includes preservation or creation of 84.1+/- acres (30%) of open space including parks, trails, landscaped lots, and native open spaces. The project includes on-site and off-site infrastructure to serve the development. Construction of a clubhouse for the age-restricted units is also proposed. Build-out will likely occur over many years, but ultimately will be dictated by market demands.

Required project approvals include: a General Plan Amendment (File No. A11-0006); Zone Change (File No. Z11-0008); Planned Development (File No. PD11-0006); Tentative Map (File No. TM11-1505); annexation into the El Dorado Irrigation District; annexation into the El Dorado Hills Community Service District; and annexation into the El Dorado Hills County Water District (El Dorado Hills Fire Department).

General Plan Amendment Description

The project is currently located entirely within the General Plan Community Region (urban limit line) of El Dorado Hills and is designated as Low Density Residential (LDR) land use, with the exception of 1.5+/- acres at the southeast corner of the property that is designated as Open Space (OS) and associated with the existing SMUD power transmission corridor. LDR allows for a maximum density of 1 dwelling unit per 5 acres.

The proposed project is applying for a change in the land use designations on the site to High Density Residential (HDR) allowing for a density range of 1 to 5 units per acre; Medium Density Residential (MDR) allowing for a maximum of 1 dwelling unit per acre; and Open Space (OS). The proposed project is retaining the existing Low Density Residential (LDR) land use designation for the existing residence to remain.

Planned Development Description

The project is a planned development.

Proposed uses within the project are as follows:

1) 444 single family detached residential units with lot sizes ranging from 5,775 sf to 3.32 ac

Product Type	Qty	Land Use
Village Small Lot	149	HDR
Village Large Lot	173	HDR
Hillside	54	HDR
Hillside Custom	58	HDR
Estate Residential	5	MDR
Estate Residential Large Lot	5	MDR
	444	

2) 160 age-restricted single family detached residential units with lot sizes ranging from 4,725 sf to 12,685 sf

Product Type	Qty	Land Use
Age-Restricted Small Lot	80	HDR
Age-Restricted Large Lot	80	HDR
	160	

3) One existing Low Density Residential (LDR) unit to remain.
4) One Clubhouse lot (Lot C)
5) One EID lot for a proposed pump station
6) Public and private roadways
7) 84.1+/- acres or 30% total open space, including native open space, parks and landscape lots.
    a. Includes 11.14 acres of Parks including:
        - One Village Park (Lot A)
        - One Neighborhood Park (Lot B)

Lighting

Outdoor lighting in conformance with Section 17.14.170 of the County Ordinance Code is anticipated to be provided at major intersections, mid-block pedestrian crossings, along sag vertical curves where needed to establish adequate sight distance and as appropriate for public safety. Limited safety and security lighting and indirect shielded lighting will also be provided at park sites, gates and clubhouse including but not limited to parking areas, play areas, and walkways where appropriate. The project does not propose to use lighted ball fields or other light intensive uses at the proposed park sites.

Existing Field Conditions

The project site is situated in the foothills of the Sierra Nevada on rolling to relatively flat terrain at an average elevation of about 1,050 feet. The project site, which is primarily used as pasturage, is undeveloped and contains no habitable structures. Newer residential developments are located to the west while older ranchettes occupy lands to the north and east. The area in general is in the process of converting from rural to residential land use. The site was very lightly grazed by cattle and horses at the time of field surveys.

The majority of the site generally drains to the north/northeast into Green Spring Creek. Green Spring Creek, which traverses the northern portion of the study area from east to west, is tributary to Folsom Reservoir by way of New York Creek. The southwestern corner of the parcel appears to drain to the south towards Allegheny Creek which is located outside of the study area boundary. Allegheny Creek is also tributary to Folsom Reservoir by way of Green Spring Creek and New York Creek, respectively.

Based on records received from the State Water Resources Control Board, the ponds are believed to have been constructed around 1966. Both ponds are manmade and are separated by an earthen embankment with a small bridge/spillway. This embankment currently provides property access and is to be reconstructed in a manner that will continue to provide adequate property access, as appropriate, in conformance with applicable regulations.

Green Springs Creek originates approximately 1/3 of a mile upstream from the project site and generally flows in a northwesterly direction. The catchment area contributing to the lower of the two ponds is approximately 1800 acres. The storage amount is proposed to remain the same with current water rights allowing for storage of approximately 27 AC-FT combined between the two ponds. The normal pond water surface elevation (spillway crest elevation) for the lower pond is to remain at approximately elevation 972 feet (NAD83 datum). Though currently controlled by a vegetated / rock lined bypass, proposed improvements will consist of a spillway with appropriate erosion control and energy dissipation.

The upper pond water surface elevation is currently controlled by flash boards placed along the face of the existing bridge structure during summer months. At approximate top of flashboard elevations, the normal upper pond water surface elevation is set to approximately elevation 982 feet (NAD83 datum) during summer months. This elevation will become the new effective year-round permanent crest elevation for the upper pond as part of the proposed project

FIELD SURVEY METHODS

Field surveys were conducted in June of 2015 according to U.S. Fish and Wildlife Service guidelines (April 4, 1997 Memorandum 1-1-97-TA-1093 Dissemination of Interim Guidance on Site Assessment and Field Surveys for California Red-Legged Frogs; August 2005 Revised Guidance on Site Assessment and Field Surveys for California Red-Legged Frogs). This Guidance recommends a total of up to eight (8) surveys to determine the presence of California Red-legged Frogs at or near a project site. Two (2) day surveys and four (4) night surveys are recommended during the breeding season; one (1) day and one (1) night survey is recommended during the non-breeding season. Each survey must take place at least seven (7) days apart. At least one survey must be conducted prior to August 15th. The survey period must be over a minimum period of 6 weeks (i.e., the time between the first and last survey must be at least 6 weeks). Throughout the species' range, the non-breeding season is defined as between July 1 and September 30.

This guidance requires that in assessing the presence of California red-legged frogs (CRF) at a given locale, the following steps and conditions are completed or met:

1. Upon arrival at the survey site, surveyors should listen for a few minutes for frogs calling, prior to disturbing the survey site by walking or looking for eye shine using bright lights. If CRF calls are identified, the surveyor should note this information on the survey data sheet and note the approximate location of the call. Once the survey begins, the surveyor should pay special attention to the area where the call originated in an attempt to visually identify the frog.

2. The most common method of surveying for CRF is the visual-encounter survey. This survey is conducted either during daylight hours or at night by walking entirely around the pond or marsh or along the entire length of a creek or stream while repeatedly scanning for frogs. This procedure allows one to scan each section of shore from at least two different angles. Surveyors should begin by first working along the entire shoreline, then by entering the water (if necessary and no egg masses would be crushed or disturbed), and visually scanning all shoreline areas and all aquatic habitats identified in the site assessment. Generally, surveyors shall focus on all open water to at least 2 meters (6.5 feet) up the bank. When wading, surveyors must take maximum care to avoid disturbing sediments, vegetation, or larvae. When walking on the bank, surveyors

shall take care to not crush rootballs, overhanging banks, and stream-side vegetation that might provide shelter for frogs. Surveys must cover the entire area, otherwise the remaining survey area must be surveyed the next day/night that weather conditions allow (both visits would constitute one day/night survey).

3. Day surveys may be conducted on the same day as a night survey. The main purpose of day surveys during the breeding season is to look for larvae, metamorphs, and egg masses; the main purpose of day surveys during the non-breeding season is to look for metamorphosing sub-adults, and non-breeding adults. Daytime surveys shall be conducted between one hour after sunrise and one hour before sunset.

4. The main purpose of night surveys is to identify and locate adult and metamorphosed frogs. Conditions and requirements for conducting night surveys are as follows:

    A. Night surveys must commence no earlier than one (1) hour after sunset.
    B. Due to diminished visibility, surveys should not be conducted during heavy rains, fog, or other conditions that impair the surveyor's ability to accurately locate and identify frogs.
    C. Nighttime surveys shall be conducted with a Service-approved light such as a Wheat Lamp, Nite Light, or sealed-beam light that produces less than 100,000 candle watt. Lights that the Service does not accept for surveys are lights that are either too dim or too bright. For example, Mag-Light-type lights and other types of flashlights that rely on 2 or 4 AA's/AAA's, 2 C's or 2 D batteries. Lights with 100,000 candle watt or greater are too bright and also would not meet Service requirements.
    D. The Service approved light must be held at the surveyor's eye level so that the frog's eye shine is visible to the surveyor.
    E. The use of binoculars is a must in order to effectively see the eye shine of the frogs. Surveys conducted without the use of binoculars may call in to question the validity of the survey.

5. Weather and visibility conditions must be consistent throughout the duration of the survey; if weather conditions become unsuitable, the survey must be completed at another time when conditions are better suited to positively locating and identifying frogs. Suitable conditions are as follows:

    A. Air temperature at the survey site must be at least 10 degrees Celsius (50 degrees Fahrenheit). Frogs are less likely to be active when temperatures are below 10 degrees Celsius (50 degrees Fahrenheit).
    B. Wind speed must not exceed 8 kilometers/hour (5 miles/hour) at the survey site. High wind speeds affect temperatures and the surveyor's ability to hear frogs calling.

C. Surveys must be conducted under clear to partly cloudy skies (high clouds are okay) but not under dense fog or during heavy rain, as stated above. Surveys may be conducted during light rains.

6. In an effort to minimize the spread of terrestrial and aquatic pathogens, all aquatic survey equipment including chest waders, wet suits, float tubes, kayaks, shall be decontaminated before entering potential CRF habitat using the guidelines in Appendix B. Careful attention shall be taken to remove all dirt from boots, chest waders, wetsuits, float tubes, kayaks, and other equipment before placing equipment into the water.

7. If the larval life stage is the only life stage detected and the larvae are not identified to species (or similarly, if sub-adult or adult frogs are observed but not identified to species), the surveyor must either return to the habitat to identify the frog in another life stage or obtain the appropriate permit (e.g., section 10(a)(1)(A) permit) authorization allowing the surveyor to handle CRF and larvae. In order for the Service to consider a survey to be complete, all frogs encountered must be accurately identified.

RESULTS

In total, three (3) days and five (5) night surveys were completed between May 2 and July 13, 2016. Unlike the unsuitable drought conditions experienced during 2015, Green Springs Creek flowed continuously during the 2016 breeding season, enabling the completion of all surveys according to protocol. Sierran treefrog (*Pseudacris sierra*), American Bull Frog (*Lithobates catesbeianus*) and Western Toad (*Anaxyrus boreas*) were observed at all sites, but the upper (eastern) pond possessed a higher concentration of amphibian observations than the lower (western) pond. Only American bullfrogs were detected in the lower pond.

Green Springs Creek remained dry during the non-breeding season surveys (post-June 30). As with breeding-season surveys, there were more observations of Sierran treefrogs, American Bullfrogs, and Western toads at the upper pond compared to the lower pond. Large brambles of Himalayan Blackberry (*Rubus discolor*) made difficult to access both sides of the pond as well as large patches of hardstem bulrush (*Schoenoplectus acutus*) at both upper and lower ponds. During the non-breeding survey the bulrush on the lower site were grazed by cattle during the non-breeding survey period, potentially limiting habitat but increasing visibility during surveys.

As in previous years, no California red-legged frogs were detected at any time during the breeding- and non-breeding seasons. American bullfrogs were observed at all sites. Centrarchid fishes (*Lepomis* spp.) were only observed in the larger, lower pond. There were small minnow (unknown spp) observed in the smaller, upper pond. All of these

species may compete with and prey upon California red-legged frogs. Other potential predators included great blue herons (*Ardea herodias*), green-backed heron (*Butorides virescens*), pied-billed grebe (*Podilymbus podiceps*), North American raccoon (*Procyon lotor*), Valley garter snake (*Thamnophis sirtalis fitchi*) and Northern Pacific pond turtle (*Actinemys marmorata*). Larval Sierran treefrogs and Western toads were also observed, but neither are known to adversely affect California red-legged frogs
Full survey results are provided in Appendix B.

SUMMARY

Permanent, suitable red-legged frog habitat is present on the project site within Green Springs Creek and the associated impoundments. Although drainage features on-site are characterized as ephemeral or intermittent, they also provide potential habitat for dispersing California red-legged frogs when they are flowing or when they possess pooled water following winter and spring rains. Although no California red-legged frogs were observed during the field surveys, there is ample supporting habitat on the project site.

The regional presence of California red-legged frogs remains unverified. A juvenile (unverified) California red-legged frog was reported in 2005 within 2.8 miles (4.5 km) of the Proposed Project from a drainage at the end of Fitch Way, on the east side of Folsom Lake, southwest of Iron Mountain and north of Highway 50 (CNDDB 2016), but no others are reported from the immediate vicinity. California red-legged frogs have been verified in recent years in El Dorado County in Weber Creek, near Placerville (early 1990s) (Miriam Green Associates 1996, CNDDB 2016), in Northeastern El Dorado County near Georgetown, and in Placer County near Michigan Bluff, but no verified populations are reported within 17.7 miles (28.5 km) of the project site. With the exception of the unverified juvenile frog reported near Folsom Lake, all California red-legged frogs recorded in this region of the Sierra Nevada occur above 2,000 feet, well above the approximately 1,050-foot mean elevation of the project site.

Predatory species such as American bullfrogs that may compete with or prey upon California red-legged frogs are present on the project site, further reducing the likelihood that California red-legged frogs persist in the area (Doubledee et al. 2003, Lawler et al. 1999, USFWS 2002). However, winter and spring flooding as well as periodic summer dry down within aquatic features may limit the density of these predators without limiting California red-legged frogs (Doubledee et al. 2003), and differing spatial distribution between red-legged frogs and potential predators may allow red-legged frogs to persist if present (Cook and Currylow 2014).

Though negative survey results do not provide definitive evidence of species absence, the lack of observations across multiple years of protocol-level surveys combined with the factors stated above suggests that California red-legged frogs probably do not occur here.

REFERENCES

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Lawler, S.P., D. Dritz, T. Strange, and M. Holyoak. 1999. Effects of introduced mosquitofish and bullfrogs on the threatened California red-legged frog. Conservation Biology 13(3):613:622.

Rathbun, G.B., M.R. Jennings, T.G. Murphey, and N.R. Siepel. 1993. Status and ecology of sensitive aquatic vertebrates in lower San Simeon and Pico Creeks, San Luis Obispo County, California. U.S. Fish and Wildlife Service, National Ecology Research Center, San Simeon, CA. Prepared for the California Department of Parks and Recreation. 103 pp.

Appendix A: Photographs

Green Spring creek, breeding season

Green Springs Creek, non-breeding season

Upper Louie Pond, breeding season

Upper Louie Pond, non-breeding season

Lower Louie Pond (E end)

Lower Louie Pond (W end)

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 05/02/2018 (mm/dd/yyyy) Survey Biologist: Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: 670105 / 4286498
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Dixon Ranch / Louie pond
Brief description of proposed action:

Type of Survey (circle one): DAY (NIGHT) (BREEDING) NON-BREEDING

Survey number (circle one): (1) 2 3 4 5 6 7 8

Begin Time: 2108 End Time: 2211

Cloud cover: 0% Precipitation: 0%

Air Temperature: 17.3 Water Temperature: 21.1

Wind Speed: 0-1 mph Visibility Conditions: Excellent

Moon phase: Waning Crescent Humidity: 43%

Description of weather conditions: cool, calm, clear sky

Brand name and model of light used to conduct surveys: Nite lite

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon, Action 8x40

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

	Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
seasonal creek	Sierran Chorus frog	>10	H	Adults	lg	100%
	Bullfrog	1	H	Adults	lg	100%
ponds	Sierran Chorus frog	>10	H	Adults	lg	100 %
	Bull frogs	3	0	Adults	med/lg	100%
	Sierran Chorus frog	7	0	Adult	lg	100%
	Bull frog		H	Adult	lg	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Bull frog throughout property Mosquito fish and Centrarchid in the shallows of waters of the ponds.

Other notes, observations, comments, *etc.* I observed no Tadpoles in the ponds. I only observed Tadpoles in the seasonal creek. The Chorus & Bull frogs were calling in the ponds, but no eggs observed, maybe next visit I will see some Tadpoles.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix B: Field Survey Forms

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 05/02/2016 (mm/dd/yyyy) **Survey Biologist:** Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: 670105 / 4286498
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Dixon Ranch / Louie pond
Brief description of proposed action:

Type of Survey (circle one): (DAY) NIGHT (BREEDING) NON-BREEDING

Survey number (circle one): (1) 2 3 4 5 6 7 8

Begin Time: 1743 **End Time:** 1856

Cloud cover: 10% **Precipitation:** 0%

Air Temperature: 25.5 **Water Temperature:** 24.1

Wind Speed: 0-1 mph **Visibility Conditions:** Excellent

Moon phase: Waning Crescent **Humidity:** 27%

Description of weather conditions: High thin clouds

Brand name and model of light used to conduct surveys: N/A

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon, Action 8x40 B.2

Appendix B: Field Survey Forms

Louie pond Day 1
5/2/16

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bullfrog	3	H	Adult	Lg	100%
Sierran Chorusfrog	>200	O	larvae	sm-Med	99%
Western Toad	>50	O	larvae	sm	99%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: A pair of Pied-Billed Grebes, Bullfrog, Centrarchid (green sunfish), 4 mosquito fish, 2 Western Pond turtle, 1 in the seasonal creek, the 2nd was in the upper pond

Other notes, observations, comments, *etc.* All the larvae observed was in the seasonal creek were the water was slow with pools.
photo #11, looking @ pools in the seasonal creek.
photo #12 looking downstream, from end of property.
photo #13 looking @ upper pond
photo #14 " " lower pond
Tules are the dominant Vegetation @ both ponds
upper ~75% cover, lower ~90% cover

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Survey: 05/18/2016 (mm/dd/yyyy) Survey Biologist: Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Dixon Ranch, Lovie Ponds
Brief description of proposed action:

Type of Survey (circle one) (DAY) NIGHT (BREEDING) NON-BREEDING

Survey number (circle one): 1 (2) 3 4 5 6 7 8

Begin Time: 1727 End Time: 1850

Cloud cover: 0% Precipitation: 0%

Air Temperature: 33.2 Water Temperature: Upper pond 27.7 Lower pond 26.8, Seasonal Creek 29.4

Wind Speed: 2-5mph Visibility Conditions: Excellent

Moon phase: Waxing Gibbous Humidity: 27%

Description of weather conditions: Calm, Sunny with wind from the South west

Brand name and model of light used to conduct surveys: N/A

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon 8x40 8.2°

Upper pond
2nd Day 5/10

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bullfrog	4	H	Adult	med/lg	100%
Western Toad	1	O	Sub Adult	med	100%
Chorus frog	28	O	Sub Adult	med/lg	100%
Chorus frog	+100	O	larvae	sm - lg	100%
Chorus frog	430	O	metamorphosis	lg	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Bullfrog, Western Pond turtle, Great Blue Heron, Pied-Billed Grebe, Belted kingfisher, Sunfish sp. and Garter snake sp.

Other notes, observations, comments, *etc.* upper pond and seasonal creek has the highest numbers of chorus frog in all life stages as well as western toad. Both pond have Bullfrogs and fish, but the lower pond has larger predatory fish

The water in seasonal creek has dropped about 2 inches. Both ponds water level is stable.

Photo #28 showing H_2O levels of seasonal creek.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 05/18/2016 (mm/dd/yyyy) Survey Biologist: Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Dixon Ranch, Lovie Pond
Brief description of proposed action:

Type of Survey (circle one): DAY (NIGHT) (BREEDING) NON-BREEDING

Survey number (circle one): 1 (2) 3 4 5 6 7 8

Begin Time: 2124 End Time: 2240

Cloud cover: 10% Precipitation: 0%

Air Temperature: 16.8 Water Temperature: upper pond 23.9 lower pond 23.1 Seasonal Creek 21.4

Wind Speed: 2mph Visibility Conditions: Excellent

Moon phase: Waxing Gibbous Humidity: 40%

Description of weather conditions: Clear, calm, wind from southwest

Brand name and model of light used to conduct surveys: Nitelite

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon 8x40

Lower Pond
Nile 5/19

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bull frog	6	H	Adult	Lg	100%
Chorus frog	14	H	Adult	Lg	100%
Chorus frog	8	O	Sub Adult	med-Lg	100%
Chorus frog	4200	O	Larvae	sm-lg	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Bullfrog and sunfish in lower pond.

Other notes, observations, comments, *etc.* Bull frogs are located in the upper and lower ponds, but the chorus frogs are located at the upper pond and seasonal creek only. No Tadpoles observed in the lower pond. Minnows observed in the upper pond, where as the lower pond has sunfish & mosquito fish

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 06/07/2016 (mm/dd/yyyy) Survey Biologist: Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Louie Ponds
Brief description of proposed action:

Type of Survey (circle one): DAY (NIGHT) (BREEDING) NON-BREEDING

Survey number (circle one): 1 2 (3) 4 5 6 7 8

Begin Time: 2131 End Time: 2248

Cloud cover: 0% Precipitation: 0%

Air Temperature: 19.0 °C Water Temperature: upper 24.6 Lower 25.5

Wind Speed: 0-2mph Visibility Conditions: Excellent

Moon phase: Waxing Crescent Humidity: 43%

Description of weather conditions: Clear sky, calm with a wind from the SSW

Brand name and model of light used to conduct surveys: Nite lite

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon 8x40

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bullfrog	4	H	Adult	med-lg	100%
Bullfrog	6	O	Adult	sm-lg	100%
Chorus frog	3	H	Adult	lg	100%
Chorus frog	>100	O	sub Adult	sm-med	100%
Chorus frog	19	O	Larvae	med-lg	100%
Western Toad	23	O	sub Adult	sm-med	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Bull frog, Centrarchid

Other notes, observations, comments, *etc.* Water is down from last ~~vis~~ visit. The creek has no flow, only small pools remain Chorus frogs (larvae & subAdult) were observed, with 2 sub Adult Bull frog. The water at the upper pond has dropped no flow between upper & lower ponds. Around the upper site subAdult Chorus ~~frog~~ in number hard to count so many. I only heard 1 Adult Bull frog at ~~the~~ the lower site. Fishing bait cans are at the lower site, may be Bass in that pond. All other frog observations were at the upper pond.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 6/29/2016 (mm/dd/yyyy)

Survey Biologist: Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Louie Ponds
Brief description of proposed action:

Type of Survey (circle one): **DAY** (NIGHT)

BREEDING **NON-BREEDING**

Survey number (circle one): 1 2 3 (4) 5 6 7 8

Begin Time: 2141 **End Time:** 2236

Cloud cover: 0% **Precipitation:** 0%

Air Temperature: 22.2 **Water Temperature:** _____

Wind Speed: 0-1 mph **Visibility Conditions:** Excellent

Moon phase: Waning Crescent **Humidity:** 35%

Description of weather conditions: clear & calm

Brand name and model of light used to conduct surveys: Nite Lite

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon 8X40

Appendix B: Field Survey Forms

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bull frog	~~#~~3	H	Adult	Lg	100%
Western Toad	8	O	subAdult	med-lg	100%
Sierran Chorus frog	29	O	subAdult	med-lg	100%
Bull frog	11	O	Adult	med-lg	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Centrarchidae in the lower pond.

Other notes, observations, comments, *etc.* Seasonal creek is dry, no pools remain. Water is down ~6" at both pond. The tules & cattails along the shore have been grazed. It makes it easy to see more of the pond. All frogs observed and Heard were located at the upper pond. I did observed a WPT (western pond turtle) at the lower pond.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Survey: 07/13/2016 (mm/dd/yyyy) **Survey Biologist:** Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Levee Ponds
Brief description of proposed action:

Type of Survey (circle one): (DAY) NIGHT **BREEDING** (NON-BREEDING)

Survey number (circle one): (1) 2 3 4 5 6 7 8

Begin Time: 1835 **End Time:** 1942

Cloud cover: 0% **Precipitation:** 0%

Air Temperature: 29.9°C **Water Temperature:** upper 29.9°C lower 28.4°C

Wind Speed: 1-3mph **Visibility Conditions:** Excellent

Moon phase: Waxing Gibbous **Humidity:** 26%

Description of weather conditions: Sunny, wind from west

Brand name and model of light used to conduct surveys: N/A

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon 8x40

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Sierran Chorus frog	57	O	Adult	sm-med	100%
Weston Toad	9	O	Adult	Sm	100%
Bull frog	~~1~~	H	Adult	lg	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Bull frog, Garter Snake (T. sirtalis), Centrarchid, Western pond turtle, Great Egert and Greenback heron.

Other notes, observations, comments, *etc.* Seasonal creek dry, and no flow between ponds, Most of the frog were observed in or around the upper pond. Did observed for the first time Chorus frogs around the lower pond. In the lower pond, 5 Western Pond turtles observed. Top water feeding by Centrarchid fish was observed as well.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Survey: 07/13/2016 (mm/dd/yyyy) Survey Biologist: Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Louie Ponds
Brief description of proposed action:

Type of Survey (circle one): DAY (NIGHT) BREEDING (NON-BREEDING)

Survey number (circle one): (1) 2 3 4 5 6 7 8

Begin Time: 2141 End Time: 2252

Cloud cover: 0% Precipitation: 0%

Air Temperature: 26.3 Water Temperature: upper = 24.4°C lower = 25.9°C

Wind Speed: 0-1 mph Visibility Conditions: Excellent

Moon phase: Waxing Gibbous Humidity: 25%

Description of weather conditions: Clear, calm

Brand name and model of light used to conduct surveys: Night Ide

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon 8 x 42

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bull frog	4	H	Adult	Lg	100%
Bull frog	12	O	Adult	sm-lg	100%
Chorus frog	34	O	Adult	sm-md	100%
Western Toad	1	O	Adult	sm	100%
Bull frog	9	O	Larvae	Lg	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Bullfrog, centrarchid (Blue-gill)

Other notes, observations, comments, *etc.* The lower pond is where I observed the Bull frog tadpoles, and 2 of 12 Bull frog Adult.
By the end of summer the upper pond maybe dry where as the lower pond is deeper and will hold it's water longer.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix C: Surveyor Qualifications

ADAM L. JOHNSON, STAFF BIOLOGIST

Eric C. Hansen, Consulting Environmental Biologist

2001-Present

Education

B.S. in Wildlife Management, Humboldt State University, Arcata, CA 2003
Concentrations: Wildlife Management with minor in Environmental Resources

Licenses/Registration

Included on List of Authorized Individuals on Eric C. Hansen's

US FISH AND WILDLIFE SERVICE RECOVERY PERMIT: ESA10(a)(1)(A) - TE-018177-6

DEPARTMENT OF FISH AND GAME SCIENTIFIC COLLECTING PERMIT - 006309

Professional Summary

Adam Johnson is a senior staff biologist for Eric C. Hansen, Consulting Environmental Biologist. In this capacity, Mr. Johnson has conducted biological monitoring and field research, including visual encounter, trapping, and radio telemetry surveys, for the state- and federally-listed (Threatened) giant garter snake, and has conducted sampling for an abundance of wildlife species throughout California's Central Valley. Mr. Johnson has also conducted biological compliance monitoring on a multitude of projects, including pre-construction and on-site monitoring and administering environmental awareness training to construction personnel.

Professional Training

California Tiger Salamander Workshop--Special Emphasis on Sampling/Surveying Upland Habitats, Carmel Valley, CA, June, 2010 - Sponsored by the Elkhorn Slough Coastal Training Program, administered by Dr. Pete Trenham

California Red-Legged Frog Workshop, April 2010 - Sponsored by the Elkhorn Slough Coastal Training Program, administered by Galen Rathbun and Norman Scott

California Tiger Salamander Workshop, Watsonville, CA, March, 2010 - Sponsored by the Elkhorn Slough Coastal Training Program, Administered by Dr. Pete Trenham

Rare Pond Species Survey Techniques Workshop, Rohnert Park, CA, March, 2008 - Sponsored by the Leguna de Santa Rosa Foundation and The Wildlife Project, administered by Dr. Jeff Alvarez and Dr. David Cook

California Tiger Salamander Workshop--Special Emphasis on Sampling/Surveying Upland Habitats, Carmel Valley, CA, June, 2010 - Sponsored by the Elkhorn Slough Coastal Training Program, administered by Dr. Pete Trenham

Sample Experience:

Kinder Morgan Energy Partners – Pipeline Anomaly Inspection and Repair Projects, Contra Costa, Sacramento, San Joaquin, and Yolo Counties, CA. Conducted biological monitoring on multiple underground pipeline inspection/repair projects throughout the Central Valley of California. Conducted pre-construction surveys and on-site monitoring for giant garter snake, Swainson's Hawk, Burrowing Owl, and western pond turtle. 2006 - Present.

Biological Effectiveness Monitoring for the Natomas Basin Habitat Conservation Plan Area. Served as staff biologist for giant garter snake population surveys (trapping and visual encounter) conducted in the Natomas Basin. Conducted field surveys independently and assisted in the supervision/coordination of seasonal field research technicians. 2004 - 2010.

Attachment H

Special-Status Plant Survey Report

Special-Status Plant Survey Report

Generations at Green Valley

El Dorado County
October 2022

MADRONE ECOLOGICAL CONSULTING

Prepared for:
Green Valley Road Benefits, LLC
110 Blue Ravine Road, Suite 209
Folsom, California 95630

Recommended Citation:
Madrone Ecological Consulting, LLC (Madrone). 2022. *Special-Status Plant Survey Report for Generations at Green Valley*. Prepared for Green Valley Road Benefits, LLC. Published on 18 October 2022.

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Attachment B: Target Plant Species Reference Population Information
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1.0 INTRODUCTION

This report presents the results of a special-status plant survey conducted for the approximately 301-acre Generations at Green Valley Study Area. The Study Area is located generally along and south of Green Valley Road in unincorporated El Dorado County, California. The Study Area is located within portions of Section 19, Township 10 North, Range 9 East (MDB&M) and Section 24, Township 10 North, Range 8 East of the "Clarksville, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2018) (**Figure 1**).

2.0 METHODOLOGY

Madrone Ecological Consulting, LLC (Madrone) botanist Daria Snider conducted protocol-level rare plant surveys of the Study Area on 26 April, 7 May, and 9 June 2021 in accordance with the *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000), the *Botanical Survey Guidelines of the California Native Plant Society* (CNPS 2001), and *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018).

A list of special-status plant species with potential to occur within the Study Area was developed by reviewing the following:

- the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (CNPS 2021) query of CRPR Lists 1A, 1B, 2A, 2B, and 3 within the "Clarksville, California" USGS topo quadrangle, and the eight surrounding quadrangles; and
- the California Natural Diversity Database occurrences of special-status plant species within 5 miles of the Study Area (CNDDB 2021).

The target species for this survey were:

- Jepson's onion (*Allium jepsonii*)
- Big-scale balsamroot (*Balsamorhiza macrolepis*)
- Stebbin's morning glory (*Calystegia stebbinsii*)
- Chaparral sedge (*Carex xerophila*)
- Pine Hill ceanothus (*Ceanothus roderickii*)
- Red Hills soaproot (*Chlorogalum grandiflorum*)
- Bisbee Peak rush-rose (*Crocanthemum suffrutescens*)
- Dwarf downingia (*Downingia pusilla*)
- Tuolumne button-celery (*Eryngium pinnatisectum*)
- Pine Hill flannelbush (*Fremontodendron decumbens*)
- Pincushion navarretia (*Navarretia myersii*)
- Layne's ragwort (*Packera layneae*)
- Sanford's arrowhead (*Sagittaria sanfordii*)

The Study Area was comprehensively surveyed on foot by walking rough transects through the site to ensure full coverage. The surveys were floristic in nature, which means that all plant species observed on-site were identified to the taxonomic level necessary to determine rarity. Thus, if a special-status plant was present but not on the target list, it would have been detected and documented. Plant taxonomy was based on the nomenclature in the *Jepson eFlora* (Jepson Flora Project 2021). Vegetation communities were classified according to the *Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). Qualifications for the botanist that conducted the surveys are included in **Attachment A**, a list of reference populations of target plants visited is included in **Attachment B**, and a comprehensive list of all plant species observed during surveys of the Study Area is included in **Attachment C**.

3.0 EXISTING CONDITIONS

The Study Area is located on rolling terrain and consists primarily of annual brome grassland and blue oak woodlands. A narrow band of willow riparian scrub occurs along a seasonal wetland swale in the central portion of the Study Area, and two large ponds occur in the northern portion of the Study Area along the intermittent Green Spring Creek. An historic homestead and associated outbuildings are located just south of the eastern pond, and an active strawberry farm is located just north of the western pond. A small patch of Valley needlegrass grassland is located on the embankment for the western pond. The heavily trafficked Green Valley Road runs through the northern portion of the Study Area; it is bordered by annual grasslands and oak woodland to the west, and serpentine chaparral to the east. In the northeastern portion of the Study Area, south and west of Green Valley Road, there is an extensively-manipulated terrace that has been used for the growing, harvesting, and sale of strawberries, blackberries, and potentially other crops, but has since been left fallow. As a result, the terrace area is primarily comprised of non-native annual grassland species and an unvegetated sandy/gravely parking area. To the west and south of this terrace, a relatively steep slope drops down to a poorly maintained dirt road. A very disturbed/open chaparral community occupies much of this slope, and just above the dirt road are a number of rock outcrops. In addition to the ponds and intermittent Green Springs Creek, a number of seasonal wetland swales, seeps, small depressional wetlands, and ephemeral drainages are scattered throughout the Study Area. Elevations within the Study Area range from 820 feet to 1,240 feet above Mean Sea Level.

The majority of the Study Area supports oak woodland comprised primarily of valley oaks (*Quercus lobata*), live oaks (*Quercus wislizenii*), and blue oaks (*Quercus douglasii*). The understory is dominated by dogtail grass (*Cynosurus echinatus*), wild oats (*Avena* sp.), rip-gut brome (*Bromus diandrus*), medusa head (*Elymus caput-medusae*), and soft chess (*Bromus hordeaceus*).

The annual brome grasslands are dominated by rip-gut brome, medusa head, and soft chess. Other common species include yellow star-thistle (*Centaurea solstitialis*), Mediterranean barley (*Hordeum murinum*), and split-leaf geranium (*Geranium dissectum*). Some patches of the annual brome grassland support a diverse suite of native forbs, including hyacinth brodiaea (*Triteleia hyacinthina*), Valley sky lupine (*Lupinus nanus*), blue dicks (*Dichelostemma capitatum*), and field popcorn flower (*Plagiobothrys fulvus*).

3.1 Aquatic Resources

3.1.1 Seeps

Four seeps occur within the study area. Seeps occur on sloping terrain and are areas of groundwater seepage. Plant species found in these areas include Baltic rush (*Juncus balticus*), Mediterranean barley, perennial rye (*Lolium perenne*), and spiny-fruited buttercup (*Ranunculus muricatus*).

3.1.2 Seasonal Wetland Swales

Seasonal wetland swales are linear seasonal wetlands, and within the Study Area they are dominated by perennial ryegrass, Mediterranean barley, curly dock (*Rumex crispus*), tall flat sedge (*Cyperus eragrostis*), and spiny-fruited buttercup.

3.1.3 Seasonal Wetlands

Two depressional seasonal wetlands are present within the Study Area. The vegetation within these features was sparse and consisted of slender popcorn flower (*Plagiobothrys stipitatus ssp. micranthus*), curly dock, Mediterranean barley, and perennial rye.

3.1.4 Ponds

Two ponds occur within the Study Area, behind historic impoundments of Green Spring Creek. The western (downstream) pond appears to be perennial, and the eastern (upstream) pond is intermittent in many years. Both appear to fill in winter in most years. The western pond is unvegetated in the center due to the depth of the water. The fringes of the western pond and much of the eastern pond support common tule (*Schoenoplectus acutus var. occidentalis*), cattails (*Typha* species), creeping spike rush (*Eleocharis macrostachya*), water pepper (*Persicaria hydropiper*), and seep spring monkey flower (*Erythranthe guttata*), among many others.

3.1.5 Green Spring Creek

The intermittent Green Spring Creek is primarily unvegetated, due to the scouring effects of water. Any vegetation that occurs along the fringes of Green Springs Creek is similar to that in the ponds.

3.1.6 Ephemeral Drainages

Several ephemeral drainages also occur within the Study Area; these features convey only stormwater flow during and immediately following storm events. As such, they are primarily unvegetated due to the scouring effects of water. Any vegetation that does occur in the channel is typically comprised of ruderal upland plant species or species consistent with the surrounding upland vegetation community.

3.2 Soils

The Natural Resources Conservation Service has mapped four soil mapping units within the Study Area: (AwD) Auburn silt loam, 2 to 30% slopes; (AxD) Auburn very rocky silt loam, 2 to 30% slopes; (PrD) Placer diggings; and (SaF) Serpentine rock land (**Figure 3**) (NRCS 2021). Unit SaF is comprised of serpentine rocks, and units AwD and AxD are comprised of material weathered from metabasic or metasedimentary rock such as amphibolite schist, greenstone schist, or diabase (NRCS 2021).

4.0 SURVEY RESULTS

4.1 Jepson's Onion

Jepson's onion is not listed under the federal or California Endangered Species Act; however, it is designated as a CRPR List 1B.2 plant. Jepson's onion is found in chaparral, cismontane woodland, and lower montane coniferous forests on serpentine or volcanic soils (CNPS 2021). It is a bulbiferous perennial, and it blooms from April through August at elevations from 980 feet to 4,330 feet (CNPS 2021).

The chaparral on serpentine soils in the northeastern portion of the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in May and June when this species would have been in bloom.

4.2 Big-Scale Balsamroot

Big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*) is not federally- or state-listed, but it is classified as a CRPR List 1B.2 plant. It is a perennial herbaceous species that occurs in chaparral, cismontane woodland and valley and foothill grasslands between 295 and 4,600 feet (CNPS 2021). Big-scale balsamroot blooms from March through June and may be found on serpentine soils, though it is known to grow on other soil types as well (CNPS 2021).

Upland communities throughout the Study Area provide suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in April, May, and June when this species would have been in bloom.

4.3 Stebbins' Morning Glory

Stebbins' morning glory is a federal- and state-listed endangered species and is classified as a CRPR 1B.1 plant. It is a perennial rhizomatous herb that is found in openings in chaparral and cismontane woodland on serpentine or gabbroic soils (CNPS 2021). Stebbins' morning glory blooms from April to July at elevations from 600 feet to 3,600 feet (CNPS 2021).

The chaparral on serpentine soils in the northeastern portion of the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in May and June when this species would have been in bloom.

4.4 Chaparral Sedge

Chaparral sedge is not federally- or state-listed, but it is classified as a CRPR List 1B.2 plant. It is a perennial herb that is found in chaparral, cismontane woodland, and lower coniferous forests on serpentine or gabbroic soils (CNPS 2021). Chaparral sedge blooms from March through June at elevations from 1,500 feet to 2,500 feet (CNPS 2021).

The chaparral on serpentine soils in the northeastern portion of the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in May and June when this species would have been identifiable.

4.5 Pine Hill Ceanothus

Pine Hill ceanothus (*Ceanothus roderickii*) is listed as endangered under the federal Endangered Species Act, as a California rare species, and is classified as a CRPR List 1B.1 plant. Pine Hill ceanothus is a prostrate, low-growing shrub that is known primarily from Pine Hill in El Dorado County. The species occurs in chaparral and cismontane woodland with Gabbro or serpentine soils between 805 and 3,575 feet. It blooms from April to June.

The chaparral on serpentine soils in the northeastern portion of the Study Area provides marginally suitable habitat for this species, as it is largely tightly restricted to the Pine Hill Formation. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in May when this species was observed in bloom at another site in the vicinity.

4.6 Red Hills Soaproot

Red Hills soaproot is not federally- or state-listed, but it is classified as a CRPR List 1B.2 plant. Red Hills soaproot occurs in chaparral, cismontane woodland, and lower montane coniferous forest on gabbro, serpentine, and other soils (CNPS 2021). This perennial blooms from May to June and is found from approximately 800 feet to 3,300 feet (CNPS 2021).

Upland communities throughout the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in June when this species was observed in bloom on other nearby sites.

4.7 Bisbee Peak Rush Rose

Bisbee Peak rush-rose (*Crocanthemum suffrutescens*) is not federally- or state-listed, but it is classified as a CRPR List 3.2 plant. Bisbee Peak rush-rose occurs in burned or otherwise disturbed areas in chaparral often on Ione Formation or Gabbro soils, but also on other soils (CNPS 2021). This perennial blooms from April through August and is found from approximately 245 feet to 2,200 feet (CNPS 2021).

The chaparral on serpentine soils in the northeastern portion of the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in June when this species was observed in bloom on other nearby sites.

4.8 Dwarf Downingia

Dwarf downingia (*Downingia pusilla*) is not federally- or state-listed, but it is classified as a CRPR List 1B.2 plant. It is a diminutive annual herb that is strongly associated with vernal pools and other seasonally inundated features at elevations ranging from sea level to approximately 1,500 feet (CNPS 2021). Dwarf downingia is typically associated with areas that experience a moderate degree of disturbance, and it blooms from March to May.

The seasonal wetlands and seasonal wetland swales within the Study Area represent marginal habitat for this species. This species was not observed during the 2021 special-status plant survey of the Study Area, which was conducted in April, when this species was observed in bloom at other nearby sites.

4.9 Tuolumne Button-Celery

Tuolumne button-celery is not federally- or state-listed, but it is classified as a CRPR List 1B.2 plant. This species occurs in mesic areas in cismontane woodlands and coniferous forests, as well as vernal pools (CNPS 2021). Tuolumne button-celery blooms from May through August, and is found from approximately 300 feet to 3,000 feet (CNPS 2021).

Seasonal wetlands, seasonal wetland swales, seeps, and intermittent drainages throughout the Study Area provide suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted when the species would have been identifiable at least to genus.

4.10 Pine Hill Flannelbush

Pine Hill flannelbush (*Fremontodendron decumbens*) is listed as endangered under the federal Endangered Species Act, as a California rare species, and is classified as a CRPR List 1B.2 plant. Pine Hill flannelbush is a sprawling, low-growing shrub that is known from Pine Hill in El Dorado County and potentially from an isolated population in Nevada County. The species favors foothill chaparral and cismontane woodland with rocky Gabbro or serpentine soils between 1,395 and 2,495 feet. It blooms from April to June.

The chaparral on serpentine soils in the northeastern portion of the Study Area provides marginally-suitable habitat for this species, as it is largely tightly restricted to the Pine Hill Formation. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species would have been in bloom.

4.11 Pincushion Navarretia

Pincushion navarretia (*Navarretia myersii* ssp. *myersii*) is not federally- or state-listed, but it is classified as a CRPR List 1B.1 plant. This annual herb is found in vernal pools and other mesic areas in annual grasslands on clay soils (CNPS 2021). Pincushion navarretia is found at elevations between approximately 65 feet and 1,100 feet and blooms from April through May (CNPS 2021).

The seasonal wetlands within the Study Area represent marginally suitable habitat for this species. This species was not observed during the 2021 special-status plant survey of the Study Area, which was conducted in April and May, when this species would have been in bloom.

4.12 Layne's Ragwort

Layne's ragwort is a federally threatened species, a state rare species, and is classified as a CRPR List 1B.2 plant. It is a perennial herb found in rocky areas in chaparral and cismontane woodlands with serpentine or Gabbroic soils (CNPS 2021). Layne's ragwort blooms from April through August at elevations from 650 feet to 3,560 feet (CNPS 2021).

The chaparral on serpentine soils in the northeastern portion of the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species was in bloom at other sites in the vicinity.

4.13 Sanford's Arrowhead

Sanford's arrowhead is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. It generally occurs in shallow freshwater habitats associated with drainages, canals, and larger ditches that sustain inundation and/or slow-moving water into early summer. It is a perennial rhizomatous emergent species that blooms from May to October at elevations from sea level to 2,130 feet (CNPS 2021).

The ponds and Green Spring Creek within the Study Area provide suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in June when this species was in bloom at other sites in the region.

4.14 CRPR List 4 Species

As noted above in Section 2.0, this survey targeted plants on CRPR Lists 1, 2, and 3, but the survey was floristic in nature, meaning that all rare plants would be documented regardless of whether they were

targeted. Serpentine bluecup (*Githopsis pulchella* ssp. *serpentinicola*), a CRPR List 4 plant, was documented on a roadcut south of the historic berry farm in the northeastern portion of the Study Area (**Figure 4**). This roadcut is in an area of serpentine soils, and a number of other common annual species were also observed co-occurring with the serpentine bluecup in this area, including chaparral clarkia (*Clarkia affinis*), small-head clover (*Trifolium microcephalum*), soft brome, and tarweed (*Madia subspicata*). The plants were scattered within three small patches totaling 0.045 acre, comprised of approximately 330 plants. This species is a CRPR List 4 species, which is typically not considered in CEQA review, as List 4 is a "Watch List," but it has been documented and will be reported to provide more information about the species' range.

In addition, a population of *Clarkia biloba* was observed just east of the northernmost serpentine bluecup population; this population was mapped as the common two-lobed clarkia (*Clarkia biloba* ssp. *biloba*), as approximately 90% of the flowers in bloom had petal morphology matching this common subspecies. However, approximately 10% of the flowers had more shallowly-lobed petals that key to Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeeae*), which is a CRPR List 4 species. This region of El Dorado County is known to be an area of hybridization between the two subspecies, and given that many of the flowers with more shallowly-lobed petals were on plants that had mostly deeply-lobed petals, the entire population was considered to be the common two-lobed clarkia.

4.15 Valley Needlegrass Grassland

A 0.031-acre patch of Valley needlegrass (*Nasella pulchra*) grassland is present on the dam of the western-most pond (**Figure 4**). In this area, Valley needlegrass comprises approximately 80% cover, and is interspersed with teasel (*Diplacus fullonium*), Klamath weed (*Hypericum perforatum*), slender milkweed (*Asclepias fascicularis*), elegant brodiaea (*Brodiaea elegans*), and Baltic rush. Valley needlegrass grassland is considered by CDFW to be a "Sensitive Natural Community" (CDFW 2021).

5.0 CONCLUSION

None of the target plant species were observed during the 2021 special-status plant survey of the Study Area. However, Valley needlegrass grassland was observed on the westernmost pond embankment. No other special-status plants were observed within the Study Area during the 2021 special-status plant survey.

6.0 REFERENCES

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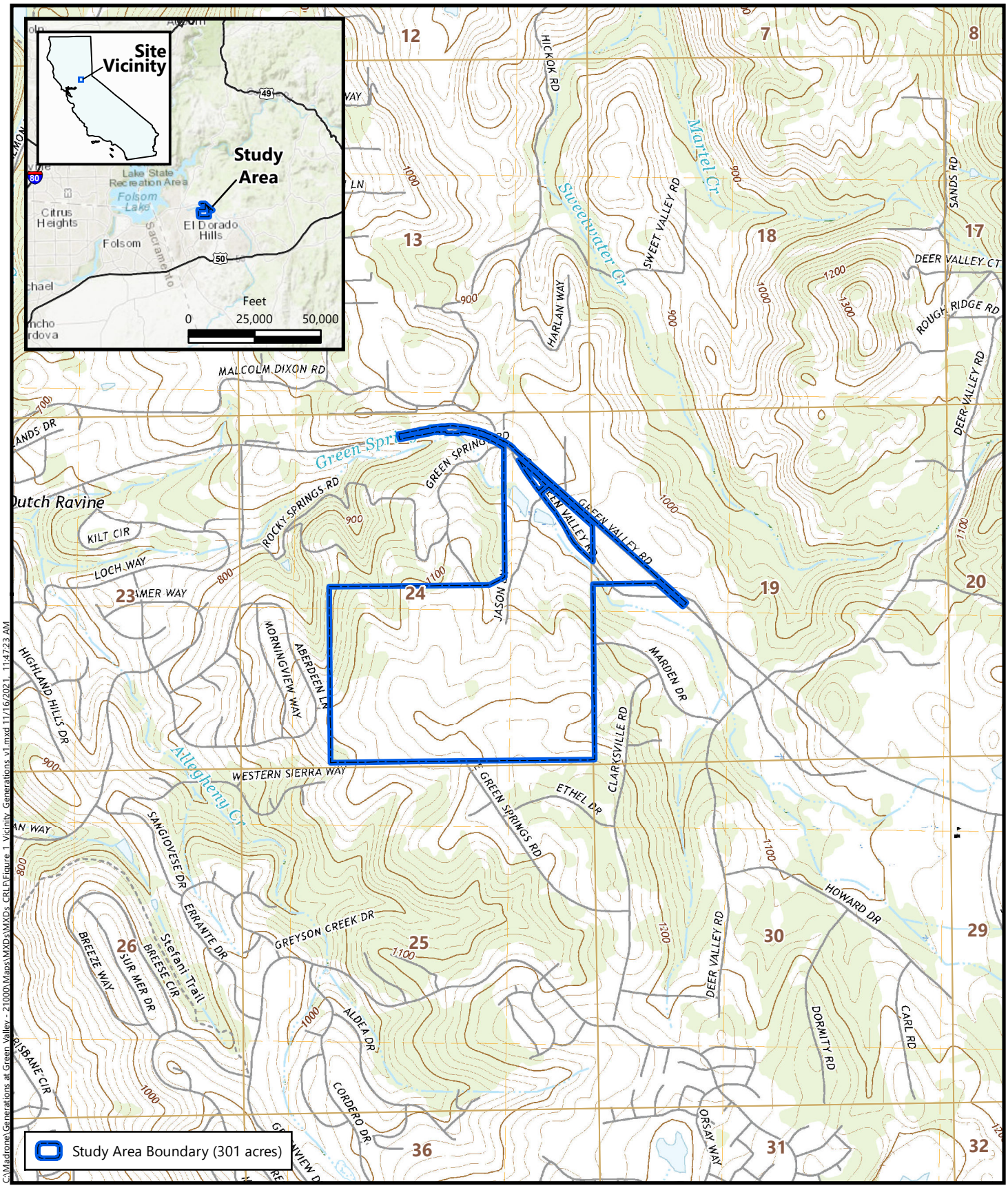
Figures

Figure 1. Vicinity Map

Figure 2. Aquatic Resources

Figure 3. Natural Resources Conservation Service Soils

Figure 4. Special-Status Plant Survey Results



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Source: United States Geologic Survey, 2018.
"Clarksville, California" 7.5-Minute Topographic Quadrangle
Section 24, Township 10 North, Range 8 East, and
Section 19, Township 10 North, Range 9 East, MDB&M
Longitude -121.045833, Latitude 38.705900

Figure 1
Site Vicinity

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

Green Valley Road

Jason Lane

Verde Valle Lane

Green Valley Road

East Green Springs Road

Study Area Boundary (301 acres)

Aquatic Resources (7.444 acres)

Wetlands (2.558 acres)

- Seasonal Wetland (0.026 acre)
- Seasonal Wetland Swale (2.138 acres)
- Seep (0.394 acre)

Other Waters (4.886 acres)

- Ephemeral Drainage (0.245 acre)
- Intermittent Drainage (0.811 acre)
- Pond (3.803 acres)
- Roadside Ditch (0.027 acre)

N

Feet

0 300 600

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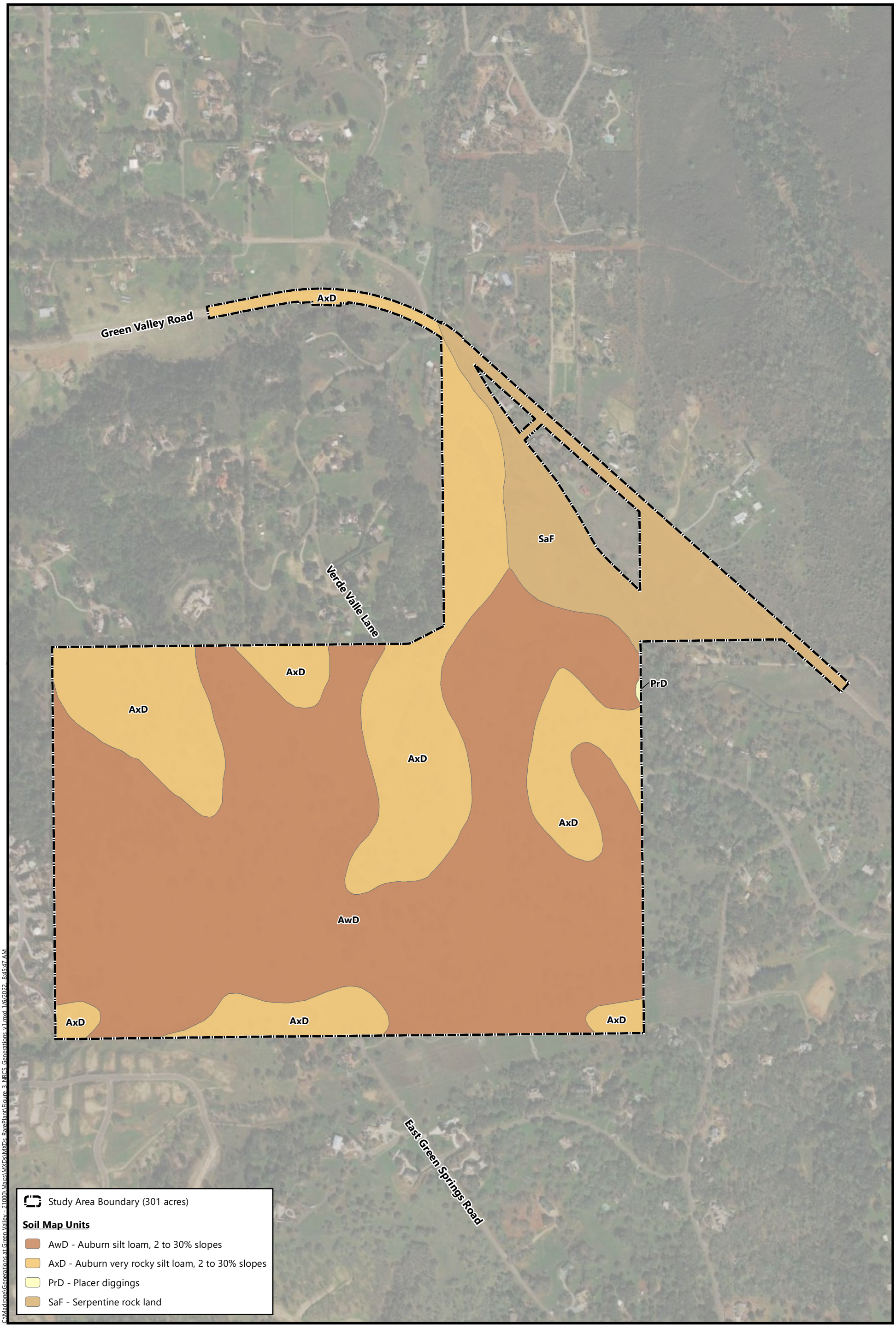
Figure 2
Aquatic Resources

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

Aerial Source: Maxar, 27 February 2021, and 4 March 2021.



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Soil Survey Source: *USDA, Soil Conservation Service. Soil Survey Geographic (SSURGO) database for El Dorado Area, California*
Aerial Source: Maxar, 27 February 2021, and 4 March 2021.

Figure 3
Natural Resources Conservation Service Soils

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

Inset A

Feet
0 75 150

Inset B

Feet
0 75 150

Inset A

Inset B

Jason Lane

Verde Valle Lane

Green Valley Road

East Green Springs Road

Study Area Boundary (301 acres)

Special-Status Plant Survey Results

Purple needlegrass grassland (0.031 acre)

Serpentine bluecup (0.045 acre, 330 plants)

Aquatic Resources (7.444 acres)

Wetlands (2.558 acres)

Seasonal Wetland (0.026 acre)

Seasonal Wetland Swale (2.138 acres)

Seep (0.394 acre)

Other Waters (4.886 acres)

Ephemeral Drainage (0.245 acre)

Intermittent Drainage (0.811 acre)

Pond (3.803 acres)

Roadside Ditch (0.027 acre)

Feet
0 300 600

N

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Aerial Source: Maxar, 27 February 2021, and 4 March 2021.

Figure 4
Special-Status Plant Survey Results

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

Attachments

Attachment A: Botanist Qualifications

Attachment B: Target Plant Species Reference Population Information

Attachment C: Plant Species Observed within the Generations at Green Valley Study Area

Attachment A

Botanist Qualifications

Rare Plant Survey Botanist Qualifications

Daria Snider

Ms. Snider has more than 16 years of experience conducting botanical inventories. As a senior biologist, she specializes in rare plant surveys, wetland delineations, and general biological resource inventories. In addition to rare plant surveys, her botanical experience includes general vegetation surveys, aerial and field vegetation mapping, Certified Arborist tree inventories, CRAM Assessments, floristic monitoring, and invasive species identification and mapping. Ms. Snider's experience includes a wide variety of habitat types, including vernal pools, annual grasslands, oak woodland, riparian communities, coastal sage scrub, chaparral, cismontane and montane forests, and desert. Her geographic expertise covers much of California, from Shasta County in the north to the Mojave Desert and San Gabriel Mountains in the south, and from Napa County in the west to the Sierra Nevada foothills and mountains in the east. Her primary focus is on the Sacramento Valley and the adjacent Sierra Nevada foothills.

Attachment B

Target Plant Species Reference Population Information

Target Plant Species Reference Population Information for the Generations at Green Valley Rare Plant Survey

Plant Species	Location of Reference Population	Date of Visit	Phenology of Reference Population/ Distinctive Characteristics
Allium jepsonii Jepson's onion	Herbarium specimen at UC Davis Center for Plant Diversity	31 March 2016	Pressed specimen. Plant is quite tall with white flowers, often tinged pink. Stamens are included, and the petals and sepals are jagged on the edges.
Balsamorhiza macrolepis Big-scale balsamroot	Herbarium specimen at UC Davis Center for Plant Diversity	31 March 2016	Pressed specimen. Similar to Wyethia, but with grey, dissected leaves. Leaves are mostly basal (as opposed to Wyethia, which has basal and cauline leaves).
Calystegia stebbinsii Stebbins morning glory	Meder Road in Cameron Park CNDDB Occurrence #6	22 April 2021	Plants are in full bloom, and appear to be as abundant as typically observed in this location.
Carex xerophila Chaparral sedge	Pine Hill unit of Pine Hill Preserve, El Dorado County	16 May 2016	Abundant on roadcuts and the hilltop. The majority of the plants were vegetative, but a few plants exhibited the characteristic hairy perigynia. Plants are small, cespitose, and have inflorescences with male flowers at the tip and only a few perigynia at the base.
Pine Hill ceanothus	CNDDB Occurrence #1	26 April 2021	Plants are about 50% in bloom, remainder in bud. Readily identifiable by prostrate habit and small leaves.
Chlorogalum grandiflorum Red Hills soaproot	CNDDB Occurrence #19, just north of Ponte Morino Drive	8 June 2021	Abundant. The majority of plants were in bloom or past bloom, exhibiting the characteristic short pedicel that is indicative of this species. Plants are relatively small rosettes with wavy leaf margins.

Plant Species	Location of Reference Population	Date of Visit	Phenology of Reference Population/ Distinctive Characteristics
Crocanthemum suffrutescens Bisbee Peak rush-rose	CNDDB Occurrence #7, along the north side of Ione-Buena Vista Road, near Ione, California Private property in Cameron Park	22 April 2021 8 June 2021	Plants not in bloom, but the perennial plants are readily identifiable to those familiar with it by the distinctive dark green stems with linear leaves. Three plants were tentatively identified from vegetative characteristics on 10 May, and were observed in full bloom on 8 June 2021.
Downingia pusilla Dwarf downingia	Woodcreek Oaks Wetland Preserve CNDDB Occurrence #142	6 April 2021	Population is in bloom quite early this year, with many more plants than previously observed in this location.
Eryngium pinnatisectum Tuolumne button-celery	Herbarium specimen at UC Davis Center for Plant Diversity	31 March 2016	Pressed specimen. Flowers have very distinctive inflorescence bracts with thickened margins and no marginal spines.
Fremontodendron decumbens Pine Hill flannelbush	Pine Hill unit of Pine Hill Preserve, El Dorado County	16 May 2016	Scattered along edges of road on the road up to Pine Hill. Plants were easily identifiable by their palmate leaves and showy orange flowers. Just starting to bloom.
Navarretia myersii ssp. *myersii* Pincushion navarretia	Herbarium specimen at UC Davis Center for Plant Diversity Online Jepson Manual and Calflora	23 April 2019 March through May 2020	Pressed specimen. Corollas for this species are quite long (12-21 mm vs 4-10 mm for the similar but more common *Navarretia leucocephala* ssp. *leucocephala*). In addition, the calyx lobes for this species are long-hairy as opposed to the generally glabrous calyx lobes for *N. leucocephala* ssp. *leucocephala*.

Plant Species	Location of Reference Population	Date of Visit	Phenology of Reference Population/ Distinctive Characteristics
Packera laynae Layne's ragwort	CNDDB Occurrence #18	10 May 2021	Abundant in patches in openings in Pine Hill chaparral. Plants were just starting to bloom. Plants are readily identifiable by their tall habit with almost spherical inflorescences.
	CNDDB Occurrence #2, just north of Ponte Morino Drive	8 June 2021	Plants were abundant in patches near top of hill. Most were past bloom, but still readily identifiable to species.
Sagittaria sanfordii Sanford's arrowhead	Population on private property in Rancho Cordova	21 June 2021	Approximately 50% of the plants were in bloom, 25% in bud, and 25% in fruit. Characteristic flowers, fruits, and emergent leaves with petioles with a triangular cross-section were all visible.

Attachment C

Plant Species Observed within the Generations at Green Valley Study Area

Plant Species Observed within the Generations at Green Valley Study Area 26 April, 7 May, and 9 June 2021

Family/Species Name	Common name	Native/non-native
ADOXACEAE		
Sambucus nigra subsp. caerulea	Blue elderberry	Native
ALISMATACEAE		
Alisma triviale	Northern water plantain	Native
AMARYLLIDACEAE		
Narcissus pseudonarcissus	Daffodil	Non-Native
ANACARDIACEAE		
Toxicodendron diversilobum	Western poison oak	Native
APIACEAE		
Anthriscus caucalis	Bur-chervil	Non-Native
Daucus carota	Queen Anne's lace	Non-Native
Daucus pusillus	Wild carrot	Native
Sanicula bipinnatifida	Purple sanicle	Native
Sanicula crassicaulis	Gamble weed	Native
Torilis arvensis	Tall sock-destroyer	Non-Native
Torilis nodosa	Short sock-destroyer	Non-Native
APOCYNACEAE		
Asclepias fascicularis	Narrow-leaf milkweed	Native
Vinca major	Greater periwinkle	Non-Native
ARACEAE		
Lemna minor	Duckweed	Native
ARISTOLOCHIACEAE		
Aristolochia californica	Pipevine	Native
ASTERACEAE		
Achillea millefolium	Yarrow	Native

Family/Species Name	Common name	Native/non-native
Agoseris retrorsa	Spearleaf agoseris	Native
Anthemis cotula	Mayweed	Non-Native
Arctotis venusta	Blue-eyed african daisy	Non-Native
Baccharis pilularis subsp. pilularis	Coyote brush	Native
Carduus pycnocephalus subsp. pycnocephalus	Italian thistle	Non-Native
Centaurea solstitialis	Yellow star-thistle	Non-Native
Chondrilla juncea	Skeleton weed	Non-Native
Cirsium vulgare	Bull thistle	Non-Native
Dittrichia graveolens	Stinkwort	Non-Native
Eriophyllum lanatum var. grandiflorum	Woolly sunflower	Native
Euthamia occidentalis	Western goldenrod	Native
Grindelia camporum	Great Valley gumweed	Native
Helenium puberulum	Sneezeweed	Native
Holocarpha virgata subsp. virgata	Slender tarweed	Native
Holozonia filipes	Whitecrown	Native
Hypochaeris glabra	Smooth cat's-ear	Non-Native
Jensia rammii	Ramm's madia	Native
Lactuca serriola	Prickly lettuce	Non-Native
Leontodon saxatilis subsp. saxatilis	Hairy hawkbit	Non-Native
Logfia gallica	Daggerleaf cottonrose	Non-Native
Madia citriodora	Tarweed	Native
Madia subspicata	Tarweed	Native
Matricaria discoidea	Pineapple weed	Native
Micropus californicus	Q-tips	Native
Psilocarphus oregonus	Oregon woollyheads	Native
Psilocarphus tenellus	Slender woolly-marbles	Native
Senecio vulgaris	Common groundsel	Non-Native
Silybum marianum	Milk thistle	Non-Native
Sonchus asper subsp. asper	Prickly sow thistle	Non-Native
Uropappus lindleyi	Silverpuffs	Native
Xanthium strumarium	Cocklebur	Native
BORAGINACEAE		
Amsinckia intermedia	Common fiddleneck	Native
Amsinckia menziesii	Common fiddleneck	Native
Cryptantha dissita	Lake cryptantha	Native
Plagiobothrys fulvus var. campestris	Field popcornflower	Native
Plagiobothrys nothofulvus	Rusty popcornflower	Native

Family/Species Name	Common name	Native/non-native
Plagiobothrys stipitatus var. micranthus	Slender popcorn flower	Native
BRASSICACEAE		
Brassica nigra	Black mustard	Non-Native
Hirschfeldia incana	Tumble mustard	Non-Native
Lepidium didymum	Lesser swine cress	Non-Native
Lepidium nitidum	Shining pepperweed	Native
Nasturtium officinale	Water cress	Native
Raphanus sativus	Radish	Non-Native
Rorippa curvisiliqua		Native
Sisymbrium irio	London rocket	Non-Native
Thysanocarpus curvipes	Fringepod	Native
CAMPANULACEAE		
Githopsis pulchella subsp. serpentinicola	Serpentine bluecup	Native
CARYOPHYLLACEAE		
Cerastium glomeratum	Sticky mouse-ear chickweed	Non-Native
Petrorhagia dubia	Grass pink	Non-Native
Scleranthus annuus subsp. annuus	Knawel	Non-Native
Silene gallica	Small-flower catchfly	Non-Native
Spergularia rubra	Red sand-spurrey	Non-Native
Stellaria media	Common chickweed	Non-Native
CHENOPODIACEAE		
Chenopodium album	Lamb's quarters	Non-Native
CONVOLVULACEAE		
Calystegia occidentalis subsp. occidentalis	Morning glory	Native
Convolvulus arvensis	Bindweed	Non-Native
CRASSULACEAE		
Crassula aquatica	Water pygmy weed	Native
Dudleya cymosa subsp. cymosa	*Canyon live forever*	Native
CYPERACEAE		
Carex praegracilis	Freeway sedge	Native
Cyperus eragrostis	Tall nutsedge	Native
Eleocharis acicularis var. acicularis	Least spikerush	Native

Family/Species Name	Common name	Native/non-native
Eleocharis macrostachya	Creeping spikerush	Native
Schoenoplectus acutus var. occidentalis	Common tule	Native
DIPSACACEAE		
Dipsacus fullonum	Wild teasel	Non-Native
EUPHORBIACEAE		
Croton setiger	Turkey-mullein	Native
Triadica sebifera	Chinese tallowtree	Non-Native
FABACEAE		
Acmispon americanus var. americanus	Spanish lotus	Native
Acmispon strigosus	Strigose lotus	Native
Lupinus nanus	Valley sky lupine	Native
Medicago polymorpha	California burclover	Non-Native
Melilotus indicus	Sourclover	Non-Native
Trifolium campestre	Hop clover	Non-Native
Trifolium dubium	Little hop clover	Non-Native
Trifolium glomeratum	Clustered clover	Non-Native
Trifolium hirtum	Rose clover	Non-Native
Trifolium microcephalum	Small-head clover	Native
Trifolium microdon	Thimble clover	Native
Trifolium subterraneum	Subterranean clover	Non-Native
Vicia sativa	Spring vetch	Non-Native
Vicia villosa	Hairy vetch, winter vetch	Non-Native
FAGACEAE		
Quercus douglasii	Blue oak	Native
Quercus kelloggii	California black oak	Native
Quercus lobata	Valley oak	Native
Quercus wislizeni	Interior live oak	Native
GERANIACEAE		
Erodium botrys	Filaree	Non-Native
Erodium cicutarium	Redstem filaree	Non-Native
Geranium dissectum	Cut leaf geranium	Non-Native

Family/Species Name	Common name	Native/non-native
HYPERICACEAE		
Hypericum perforatum subsp. perforatum	Klamathweed	Non-Native
JUGLANDACEAE		
Juglans hindsii	Northern California black walnut	Native
JUNCACEAE		
Juncus balticus subsp. ater	Baltic rush	Native
Juncus bufonius	Toad rush	Native
Luzula comosa var. comosa		Native
LAMIACEAE		
Lamium amplexicaule	Henbit	Non-Native
Marrubium vulgare	Horehound	Non-Native
Mentha spicata	Spearmint	Non-Native
Stachys rigida var. rigida	Hedge nettle	Native
Trichostema lanceolatum	Vinegar weed	Native
LILIACEAE		
Calochortus albus	White globe lily	Native
LINACEAE		
Linum bienne	Blue flax	Non-Native
LYTHRACEAE		
Lythrum hyssopifolia	Hyssop loosestrife	Non-Native
MALVACEAE		
Sidalcea hirsuta	Hairy checkerbloom	Native
MARSILEACEAE		
Marsilea vestita subsp. vestita	Hairy water fern	Native
MONTIACEAE		
Calandrinia menziesii	Red maids	Native
Claytonia perfoliata subsp. perfoliata	Miner's lettuce	Native
Claytonia rubra subsp. rubra	Miner's lettuce	Native

Family/Species Name	Common name	Native/non-native
MORACEAE		
Ficus carica	Edible fig	Non-Native
MYRSINACEAE		
Lysimachia arvensis	Scarlet pimpernel	Non-Native
MYRTACEAE		
Eucalyptus globulus	Blue gum	Non-Native
ONAGRACEAE		
Clarkia affinis	Chaparral clarkia	Native
Clarkia biloba subsp. biloba	Two lobed clarkia	Native
Clarkia purpurea subsp. quadrivulnera	Four-spot	Native
Epilobium brachycarpum	Panicled willow-herb	Native
Epilobium torreyi	Torrey's willow-herb	Native
OROBANCHACEAE		
Castilleja attenuata	Valley tassels	Native
Castilleja exserta subsp. exserta	Purple owl's clover	Native
Triphysaria eriantha subsp. eriantha	Butter and eggs	Native
Triphysaria versicolor subsp. versicolor	Yellow owl's clover	Native
OXALIDACEAE		
Oxalis micrantha	Dwarf wood-sorrel	Non-Native
PAPAVERACEAE		
Eschscholzia caespitosa	Tufted poppy	Native
Eschscholzia californica	California poppy	Native
Eschscholzia lobbii	Frying pans	Native
PHRYMACEAE		
Erythranthe guttata	Seep-spring monkeyflower	Native
PHYTOLACCACEAE		
Phytolacca americana var. americana	Pokeweed	Non-Native
PINACEAE		
Pinus sabiniana	Foothill pine	Native

Family/Species Name	Common name	Native/non-native
PLANTAGINACEAE		
Plantago erecta	Dotseed plantain	Native
Plantago lanceolata	English plantain	Non-Native
Veronica americana	American brooklime	Native
Veronica anagallis-aquatica	Water speedwell	Non-Native
Veronica peregrina subsp. xalapensis	Purslane speedwell	Native
POACEAE		
Aegilops triuncialis	Barbed goat grass	Non-Native
Aira caryophyllea	Silver hair grass	Non-Native
Avena barbata	Slender wild oat	Non-Native
Avena fatua	Wild oat	Non-Native
Brachypodium distachyon	False brome	Non-Native
Briza minor	Annual quaking grass	Non-Native
Bromus diandrus	Ripgut grass	Non-Native
Bromus hordeaceus	Soft chess	Non-Native
Bromus madritensis subsp. rubens	Red brome	Non-Native
Bromus tectorum	Cheat grass, downy chess	Non-Native
Cynodon dactylon	Bermuda grass	Non-Native
Cynosurus echinatus	Bristly dogtail grass	Non-Native
Elymus elymoides	Squirreltail	Native
Elymus ponticus	Tall wheat grass	Non-Native
Festuca bromoides	Brome fescue	Non-Native
Festuca microstachys	Six weeks grass	Native
Festuca myuros	Rattail sixweeks grass	Non-Native
Festuca perennis	Rye grass	Non-Native
Glyceria declinata	Low manna grass	Non-Native
Hordeum marinum subsp. gussoneanum	Mediterranean barley	Non-Native
Hordeum murinum subsp. leporinum	Hare barley	Non-Native
Melica imperfecta	Little california melica	Native
Melica torreyana	Torrey's melic	Native
Paspalum dilatatum	Dallis grass	Non-Native
Paspalum distichum	Knot grass	Native
Poa annua	Annual blue grass	Non-Native
Poa bulbosa subsp. bulbosa		Non-Native
Poa pratensis subsp. pratensis	Kentucky blue grass	Non-Native
Poa secunda subsp. secunda	One-sided blue grass	Native
Sorghum halepense	Johnson grass	Non-Native

Family/Species Name	Common name	Native/non-native
Stipa pulchra	Purple needle grass	Native
POLEMONIACEAE		
Gilia capitata subsp. mediomontana		Native
Leptosiphon ciliatus	Whisker brush	Native
POLYGONACEAE		
Eriogonum nudum var. nudum	Naked wild buckwheat	Native
Eriogonum luteolum var. luteolum	Golden-carpet wild buckwheat	Native
Persicaria hydropiper	Waterpepper	Non-Native
Polygonum aviculare subsp. depressum	Prostrate knotweed	Non-Native
Pterostegia drymarioides		Native
Rumex acetosella	Sheep sorrel	Non-Native
Rumex crispus	Curly dock	Non-Native
Rumex pulcher	Fiddle dock	Non-Native
POTAMOGETONACEAE		
Potamogeton diversifolius	Diverse-leaved pondweed	Native
PTERIDACEAE		
Pentagramma triangularis	Goldback fern	Native
RANUNCULACEAE		
Delphinium variegatum subsp. variegatum	Royal larkspur	Native
Ranunculus aquatilis var. aquatilis	White water buttercup	Native
Ranunculus bonariensis var. trisepalus	Carter's buttercup	Native
Ranunculus californicus var. californicus	California buttercup	Native
Ranunculus muricatus	Spiny fruit buttercup	Non-Native
RHAMNACEAE		
Ceanothus cuneatus var. cuneatus	Buckbrush	Native
Ceanothus integerrimus var. integerrimus	Deer brush	Native
Frangula californica subsp. tomentella	Hoary coffeeberry	Native
Rhamnus ilicifolia	Hollyleaf redberry	Native
ROSACEAE		
Heteromeles arbutifolia	Toyon	Native
Pyracantha species	Firethorn	Non-Native
Pyrus communis	Common pear	Non-Native

Family/Species Name	Common name	Native/non-native
Rubus armeniacus	Himalayan blackberry	Non-Native
RUBIACEAE		
Galium aparine	Goose grass	Native
Galium murale	Tiny bedstraw	Non-Native
Sherardia arvensis	Field madder	Non-Native
SALICACEAE		
Populus alba	White poplar	Non-Native
Salix exigua	Sandbar willow	Native
Salix gooddingii	Goodding's black willow	Native
Salix lasiandra var. lasiandra	Pacific willow	Native
Salix lasiolepis	Arroyo willow	Native
SAPINDACEAE		
Aesculus californica	California buckeye	Native
SELAGINELLACEAE		
Selaginella hansenii	Hansen's spike moss	Native
SIMAROUBACEAE		
Ailanthus altissima	Tree of heaven	Non-Native
SOLANACEAE		
Solanum elaeagnifolium	White horse-nettle	Non-Native
THEMIDACEAE		
Brodiaea elegans subsp. elegans	Harvest brodiaea	Native
Dichelostemma capitatum	Blue dicks	Native
Dichelostemma volubile	Twining brodiaea	Native
Triteleia bridgesii	Bridges' brodiaea	Native
Triteleia hyacinthina	Wild hyacinth	Native
Triteleia ixioides subsp. scabra	Pretty face	Native
Triteleia laxa	Ithuriel's spear	Native
TYPHACEAE		
Typha angustifolia	Narrow-leaved cattail	Non-Native
Typha latifolia	Broad-leaved cattail	Native

Family/Species Name	Common name	Native/non-native
VALERIANACEAE		
Plectritis ciliosa		Native
VITACEAE		
Vitis vinifera	Wine grape	Non-Native

Attachment F

Survey Results: California Red-Legged Frog and California Tiger Salamander

California Red-legged Frog Habitat Assessment

Generations at Green Valley

El Dorado County
17 December 2021
Updated 11 October 2022

MADRONE ECOLOGICAL CONSULTING

Prepared for:
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1.0 INTRODUCTION

1.1 Purpose of This Assessment

At the request of Green Valley Road Benefits, LLC, Madrone Ecological Consulting, LLC (Madrone) conducted a habitat assessment for the ±301-acre Generations at Green Valley project area (Study Area) in El Dorado County, California. The Study Area is proposed for residential development. The purpose of this assessment is to determine the potential for CRLF habitat to occur on and adjacent to the Study Area. This assessment was prepared in accordance with the *Revised Guidance on Site Assessment and Field Surveys for California Red-Legged Frogs* (USFWS 2005). Eric C. Hansen completed a CRLF habitat assessment for the Study Area in 2013 and determinate level surveys in 2016 (note that a different project was proposed at the time). The results of Mr. Hansen's assessment and determinate level surveys were negative.

1.2 Study Area

The Study Area is located within the foothills of western El Dorado County at an elevation of approximately 820 to 1,240 feet above mean sea level. The Study Area is approximately 301 acres in size and is situated south of Green Valley Road, north of the Serrano residential development, and east of the Sterlingshire residential development. The Study Area corresponds to portions of Sections 19 and 24, Township 10 North, and Ranges 8 and 9 East of the "Clarksville, California" 7.5-minute quadrangle (USGS 2018). The approximate center of the Study Area is located at latitude 38.705900° and longitude -121.045833°.

1.3 Environmental Setting

The Study Area is located on rolling terrain and mostly consists of annual brome grassland and blue oak woodlands. A narrow band of willow riparian scrub occurs along a seasonal wetland swale in the central portion of the Study Area, and two large ponds occur in the northern portion along the intermittent Green Spring Creek. The average annual precipitation for the Study Area is 33.88 inches (WRCC 2021).

The Study Area is primarily composed of undeveloped land. One uninhabitable old homestead and associated outbuildings is present within the northern portion of the Study Area near the ponds and several private, low-use dirt roads occur scattered throughout the Study Area.

The majority of the Study Area supports oak woodland composed chiefly of valley oaks (*Quercus lobata*), live oaks (*Quercus wislizenii*), and blue oaks (*Quercus douglasii*). The understory consists of dogtail grass (*Cynosurus echinatus*), wild oats (*Avena* sp.), rip-gut brome (*Bromus diandrus*), medusa head (*Elymus caput-medusae*), and soft chess (*Bromus hordeacious*).

The annual brome grasslands are dominated by rip-gut brome, medusa head, and soft chess. Other associated species include yellow start-thistle (*Centaurea solstitialis*), Mediterranean barley (*Hordeum murinum*), and split-leaf geranium (*Geranium dissectum*). Some patches of the annual brome grassland support a diverse suite of native forbs, including hyacinth brodiaea (*Triteleia hyacinthina*), Valley sky lupine (*Lupinus nanus*), blue dicks (*Dichelostemma capitatum*), and field popcorn flower (*Plagiobothrys fulvus*).

The study area also encompasses several water features supporting plant communities dominated by hydrophytic macrophytes. These are discussed in greater detail below.

The majority of the Study Area generally drains to the north/northeast into Green Spring Creek. Green Spring Creek, which traverses the northern portion of the Study Area from east to west, is tributary to Folsom Lake by way of New York Creek. The southwestern corner of the Study Area appears to drain to the south and into Allegheny Creek, which is also a tributary to Folsom Lake by way of Green Spring Creek and New York Creek, respectively.

A total of 7.444 acres of aquatic resources including seasonal wetland, seasonal wetland swale, seep, ephemeral drainage, intermittent drainage, pond, and roadside ditch have been mapped within the Study Area (**Figure 2**) (Madrone 2021).

Table 1. Waters of the U.S. Mapped within the Study Area

Waters Type	Acreage
Wetlands	
Seasonal Wetland	0.026
Seasonal Wetland Swale	2.138
Seep	0.394
Other Waters	
Ephemeral Drainage	0.245
Intermittent Drainage	0.811
Pond	3.803
Roadside Ditch	0.027
Total	**7.444**

1.4 Species Biology, Habitat, and Distribution

CRLF was federally listed under the Endangered Species Act as threatened on June 24, 1996 (USFWS 1996). Among the native frog species of the western United States, CRLF is the largest (Wright and Wright 1949), measuring 1.5 to 5.1 inches (in) in length (Stebbins 2003). Adult individuals are characterized by prominent dorsolateral folds on their back region with spots that have light centers (Stebbins 2003). Individual frogs typically have red or orange abdomens and hind legs, with small black flecks and irregular dark blotches with brown, gray, olive or reddish indistinct outlines across the dorsal surface. Larval body lengths range from 14 to 80 millimeters (mm) (0.6 to 3.1 in) with a body background color of dark brown or olive green, to yellow with dark spots (Storer 1925).

CRLF habitat is characterized by riparian vegetation associated with slow-moving water that is relatively deep (>0.7 meters [m]). Emergent and edge vegetation requirements are highly variable and include willow (*Salix* sp.), cattails, and bulrushes (*Schoenoplectus* spp.) providing appropriate habitat (Jennings and Hayes 1994). Adults can be found in both ephemeral and perennial streams and ponds; although stable populations require permanent freshwater (salinity ≤4.5%) water sources for the larval life stage (Jennings and Hayes 1994). Riparian vegetation and mammal burrows near water sources also provide refuge to estivating adults (USFWS 1996). Adults may utilize mammal burrows, desiccation cracks on pond bottoms, or dense vegetation and debris piles when aquatic breeding habitat dries (Alvarez 2004).

Adults breed from November through March, with females laying 500 to 5,000 eggs within large, gelatinous egg masses attached to submergent or emergent vegetation (Alvarez et al. in press). Eggs hatch 6 to 14 days after deposition, with larvae undergoing metamorphosis 3.5 to 7 months after hatching. Eggs and larvae are intolerant of salinity, with egg mortality reaching 100 percent in water with

salinity levels greater than 4.5 parts per thousand (ppt), and larvae when exposed to salinity levels higher than 7 ppt (USFWS 1996).

The range of CRLF historically occurred in 46 counties throughout California, including areas of the Central Valley floor, Sierra Nevadan foothills, and Coast Ranges. Historically, the species extended as far north as Shasta County and down to Baja California in the southern end of its range (Jennings and Hayes 1994). Currently, CRLF is found in 22 counties, with significant populations found in coastal drainages between Point Reyes (Marin County) and Santa Barbara (Santa Barbara County) (Jennings and Hayes 1994). CRLF intergrades with northern red-legged frog (*Rana aurora*) in Mendocino County, CA (Hayes and Miyamoto 1984, Shaffer et al. 2004). CRLF have been extirpated from almost the entire Central Valley with some populations remaining in the Tracy/Mountain House area. There are very few extant populations of CRLF remaining within the Sierra Nevada Foothills. The nearest population to the Study Area is near Pollock Pines in El Dorado County and in the town of Michigan Bluff in Placer County. These populations are over 20 miles east and northeast of the Study Area (**Figure 3**).

1.5 Critical Habitat

On 17 March 2010, USFWS published a final rule revising the designation of Critical Habitat for CRLF [Federal Register Vol. 75, No. 51:12816]. Critical habitat was designated in 22 counties within California, for a total of ±1,636,609 acres (662,312 hectares).

Based upon the current knowledge of the life history, biology, and ecology of CRLF, Critical Habitat requires the following Primary Constituent Elements (PCEs):

1. *Aquatic Breeding Habitat:* Standing bodies of fresh water (with salinities less than 4.5 ppt), including natural and manmade (e.g., stock) ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years.
2. *Aquatic Non-Breeding Habitat:* Freshwater pond and stream habitats, as described above, that may not hold water long enough for the species to complete its aquatic life cycle but which provide for shelter, foraging, predator avoidance, and aquatic dispersal of juvenile and adult California red-legged frogs. Other wetland habitats considered to meet these criteria include, but are not limited to: plunge pools within intermittent creeks, seeps, quiet water refugia within streams during high water flows, and springs of sufficient flow to withstand short-term dry periods.
3. *Upland Habitat:* Upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of 1 mi (1.6 km) in most cases (i.e., depending on surrounding landscape and dispersal barriers) including various vegetational types such as grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance for the California red-legged frog. Upland features are also essential in that they are needed to maintain the hydrologic, geographic, topographic, ecological, and edaphic features that support and surround the aquatic, wetland, or riparian habitat. These upland features contribute to: (1) Filling of aquatic, wetland, or riparian habitats; (2) maintaining suitable periods of pool inundation for larval frogs and their food sources; and (3) providing non- breeding, feeding, and sheltering habitat for juvenile and adult frogs (e.g., shelter, shade, moisture, cooler temperatures, a prey base, foraging opportunities, and areas for predator avoidance). Upland habitat should include structural features such as boulders, rocks and organic debris (e.g., downed trees, logs), small mammal burrows, or moist leaf litter.

4. *Dispersal Habitat:* Accessible upland or riparian habitat within and between occupied or previously occupied sites that are located within 1 mi (1.6 km) of each other, and that support movement between such sites. Dispersal habitat includes various natural habitats, and altered habitats such as agricultural fields, that do not contain barriers (e.g., heavily traveled roads without bridges or culverts) to dispersal. Dispersal habitat does not include moderate- to high-density urban or industrial developments with large expanses of asphalt or concrete, nor does it include large lakes or reservoirs over 50 ac (20 ha) in size, or other areas that do not contain those features identified in PCE 1, 2, or 3 as essential to the conservation of the species.

2.0 METHODS

The site assessment followed guidance provided in USFWS' *Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog* (USFWS 2005).

Prior to the field site assessment, a review of the known records of the species was conducted. The California Natural Diversity Database's (CNDDB's) Biogeographic Information and Observation System online mapping tool (CDFW 2021) was used to identify records of CRLF within 1.0 mile (1.6 km) of the Study Area, which represent known occurrences in the vicinity of the Study Area. Records within 3.1 miles (5 km) of the Project site were also identified, as recommended in the Protocols in order to place the Project site in a regional perspective.

The habitat assessment was conducted on 5 November 2021 by Madrone biologist Dustin Brown. See **Attachment A** for surveyor qualifications. On-site aquatic habitats and adjacent uplands were evaluated for their potential to support breeding, foraging, dispersal and refugia or aestivation habitat. During the site visit, all wetlands located within the Study Area were visited and assessed for the potential to provide suitable aquatic habitat for CRLF. Habitat assessments were completed for aquatic features that could potentially pond water through the spring and early summer, as well as adjacent uplands surrounding such aquatic features. Three aquatic features within the Study Area were determined to pond for extended periods, and as such, were evaluated during field surveys: Pond 1, Pond 2, and Seep 4 (**Figure 4**). Field-based habitat assessments were conducted by walking the perimeter of the wetland features and through adjacent upland areas. Variables observed and recorded included habitat type, size, approximate depth, substrate, location, plant assemblages, presence of potential refugia, and general hydrology notes.

Potential aquatic habitats for CRLF within 1.0 mile of the Study Area were also assessed for potential to provide suitable habitat to CRLF. The off-site areas were assessed via aerial photograph as these areas were on private property.

3.0 RESULTS

3.1 Range and Critical Habitat

The Study Area is located within the current range of CRLF. There is no critical habitat for CRLF within 3.1 miles of the Study Area. The nearest Critical Habitat (Unit ELD-1) is located approximately 20 miles east of the Study Area (**Figure 3**).

3.2 Documented Occurrences

There are no documented occurrences of CRLF within 3.1 miles of the Study Area. There is one unverified observation of CRLF located approximately 2.6 miles northwest of the Study Area along Folsom Lake (CNDDB Occurrence Number 814). This observation consists of a single "red" frog observed jumping off of a pedestrian bridge into a creek. Biologists have searched this area in order to determine whether there is a population of CRLF in the vicinity but no CRLF have been observed (CDFW 2021). There are two occurrences of CRLF (CNDDB Occurrence Numbers 1284, 1317, and 1377) located approximately 14 miles northeast and southeast of the Study Area. There is a large known population of CRLF located within the town of Michigan Bluff (CNDDB Occurrences 446 and 890) approximately 25 miles northeast of the Study Area. There is a known population of CRLF located within Webber Creek and Spivey Reservoir (CNDDB Occurrence Number 586) approximately 22 miles east of the Study Area (CNDDB 2021)(**Figure 3**).

3.3 On-Site Habitat

There are three aquatic resources (Pond 1, Pond 2, and Seep 4) within the Study Area that represent potential aquatic breeding habitat for CRLF. Green Spring Creek (intermittent drainage) within the Study Area represents potential dispersal habitat for CRLF. Please see below for descriptions of each of the aquatic features that were included in this assessment. See **Figure 4** for locations of these features and see **Attachment B** for photographs of each feature. See **Attachment C** for site assessment data forms for each feature.

3.3.1 Pond 1

Pond 1 is located along Green Spring Creek within the northern portion of the Study Area. This pond is an in-stream stock pond that was manmade and contains an earthen dam with a rock and mortar spillway. The surface area of this pond is approximately 500 feet by 200 feet at maximum inundation and maximum depth is approximately 8 feet. Emergent vegetation is abundant, covering approximately 30 percent of the surface, and consists of bullrush. Approximately 20 percent of the shoreline along the southeast bank is vegetated with blackberry brambles and the rest of the shoreline is vegetated by annual grasses and forbs. Pond 1 is surrounded by annual grassland that is cattle grazed. This feature was full at the time of the survey and was being fed by Green Spring Creek at a rate of approximately 0.5 cubic feet per second. The water was clear and no fish or turtles were observed within the pond. No wading birds were foraging in Pond 1 as this feature dried in the summer and fall of 2021 and no fish are present. Signs of recent high flashy flows were observed along the northern shore of this pond. It appeared that the large storm in mid-October that dropped over seven inches of rain in two days caused the creek to flow at a very high rate and raise the level of the pond by as much as three feet above the ordinary high water mark. This pond appears to be semi-perennial and dries during below average rain years.

3.3.2 Pond 2

Pond 2 is located along Green Spring Creek approximately 50 feet downstream of Pond 1. Similar to Pond 1, Pond 2 is an in-stream stock pond that was manmade and contains an earthen dam with a spillway. Surface area of this pond is approximately 450 feet by 160 feet at maximum inundation and maximum depth is approximately 10 feet. Emergent vegetation is moderately abundant covering approximately 25 percent of the surface and consists of bullrush and young willows. Approximately 60 percent of the shoreline is vegetated with bullrush, 20 percent is vegetated with blackberry brambles, and the rest of the shoreline is vegetated by annual grasses and forbs. Pond 2 is surrounded by annual grassland and oak

savannah that is cattle grazed to the south and east and a strawberry farm and rural residential properties to the north and west. This feature was full at the time of the survey and was being fed by Green Spring Creek at a rate of approximately 0.5 cubic feet per second. The water was clear and mosquito fish (*Gambusia affinis*) was observed within the pond. Also, a great blue heron (predatory wading bird) was observed foraging in Pond 2 meaning that fish are present. This pond appears to be perennial and may support predatory game fish.

3.3.3 Seep S-4

Seep S-4 is located within the northeastern portion of the Study Area along an ephemeral drainage situated within an oak savannah. This seep is a natural feature that has been excavated to form a perennial pool. Stacked stone was used to create a spring box and the box also contains a dilapidated timber and corrugated steel covering. Surface area is approximately 8 feet by 12 feet at maximum inundation and maximum depth is approximately 3 feet. No vegetation was observed in the seep. This feature was observed to contain water during the summer of 2021 (very dry year) and is likely perennial. The seep is also used to supply water to cattle troughs approximately 70 feet downstream of the seep. The seep represents potential CRLF breeding and dispersal/refugia habitat.

3.3.4 Intermittent Drainage - Green Spring Creek

Green Spring Creek within the Study Area is a rocky seasonal stream that flows during the rainy season and for portions of the spring and early summer. Its likely dries by mid to late summer. This creek contains riffle and run habitats with no main channel pools or thick riparian vegetation. Flows within Green Spring Creek are likely flashy during rain events. No suitable CRLF breeding or refugia habitat was observed within Green Spring Creek within the Study Area. This creek may serve as migration/dispersal habitat for CRLF.

3.3.5 Other Aquatic Resources

Other aquatic resources located within the Study Area include seasonal wetlands, seasonal wetland swales, seeps, ephemeral drainages, and roadside ditches. These features were assessed for the potential to provide aquatic habitat, be it breeding, refugia, or dispersal habitat, for CRLF. The other aquatic resources within the Study Area are very shallow and do not contain water for long enough periods to provide suitable aquatic habitat for CRLF.

3.4 Off-Site Habitat

Potential habitat for CRLF within 1-mile of the Study Area was identified by aerial photograph. A total of eight aquatic features representing potential breeding habitat or dispersal habitat for CRLF were identified within 1.0 mile of the Study Area. These features consist of six ponds representing potential breeding habitat for CRLF and two streams (including Green Spring/New York Creek) representing potential CRLF dispersal habitat. There do not appear to be any barriers present between these aquatic features and the Study Area. Please see **Figure 5** for locations of potential off-site CRLF habitat.

3.5 Barriers to Dispersal

There are no natural or manmade barriers for CRLF dispersal within the Study Area. The nearest potential barrier is Green Valley Road located just north of the Study Area. This two-lane road may limit the dispersal of CRLF, but it is not a complete barrier and individual CRLF could cross the road.

4.0 CONCLUSION

Suitable aquatic breeding habitat for CRLF was observed within the two onsite ponds and within Seep S-4 within the Study Area. Also, Green Spring Creek within the Study Area represents suitable dispersal habitat for CLRF. Although no CRLF were observed within the Study Area during the survey these features in theory could support the species.

In past biological surveys of these ponds, predatory species such as Centrarchids (*Lepomis* sp.) and American bull frog (*Lithobates catesbeianus*) were observed within the ponds, which may reduce the potential for CRLF to be present.

Even though there is potentially suitable habitat for CRLF within the Study Area, there are no known or verified populations of CRLF within 3.1 miles of the Study Area. The nearest observation along Folsom Lake is unverified and is likely not a viable population. The nearest viable breeding populations of CRLF to the Study Area are all over 2,000 feet in elevation (substantially higher than the Study Area) and are over 15 miles away.

In conclusion, while the Study Area contains potential habitat for CRLF, the presence of bullfrogs and predatory game fish and the distance from the Study Area to verified populations of CRLF, means that the likelihood of CRLF being present within the Study Area is low.

5.0 REFERENCES

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Figures

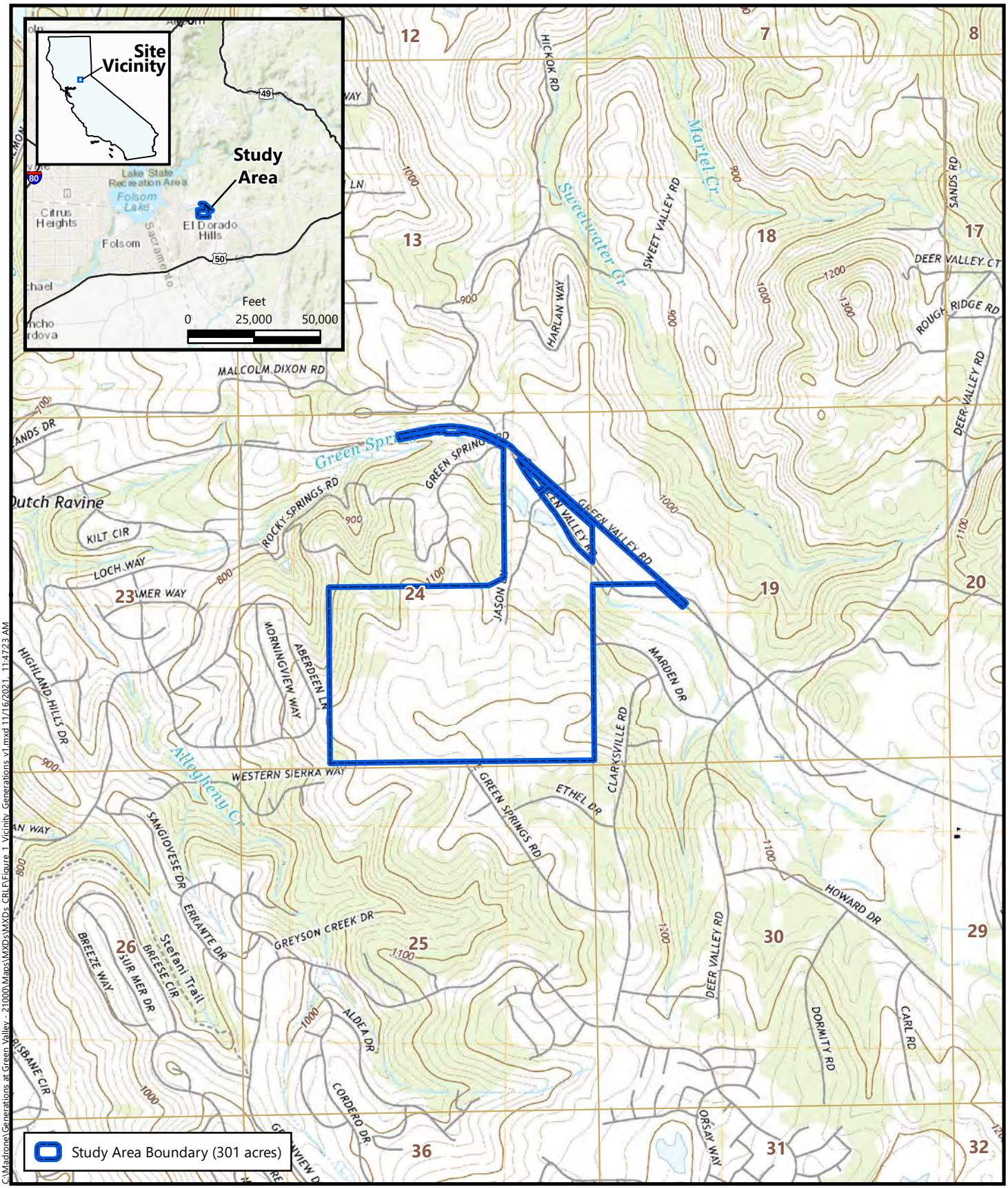
Figure 1. Site and Vicinity

Figure 2. Aquatic Resources

Figure 3. California Natural Diversity Database Occurrences

Figure 4. On-Site California Red-Legged Frog Habitat

Figure 5. Off-Site California Red-Legged Frog Habitat



C:\Madrone Generations at Green Valley - 21000\Maps\MXDs\MXDs CRLF\Figure 1 Vicinity Generations v1.mxd 11/16/2021 11:47:23 AM

Source: United States Geologic Survey, 2018.
"Clarksville, California" 7.5-Minute Topographic Quadrangle
Section 24, Township 10 North, Range 8 East, and
Section 19, Township 10 North, Range 9 East, MDB&M
Longitude -121.045833, Latitude 38.705900

Figure 1
Site Vicinity

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

Green Valley Road

Jason Lane

Verde Valle Lane

Green Valley Road

East Green Springs Road

Study Area Boundary (301 acres)

Aquatic Resources (7.444 acres)

Wetlands (2.558 acres)

- Seasonal Wetland (0.026 acre)
- Seasonal Wetland Swale (2.138 acres)
- Seep (0.394 acre)

Other Waters (4.886 acres)

- Ephemeral Drainage (0.245 acre)
- Intermittent Drainage (0.811 acre)
- Pond (3.803 acres)
- Roadside Ditch (0.027 acre)

N

Feet

0 300 600

Aerial Source: Maxar, 1 May 2022.

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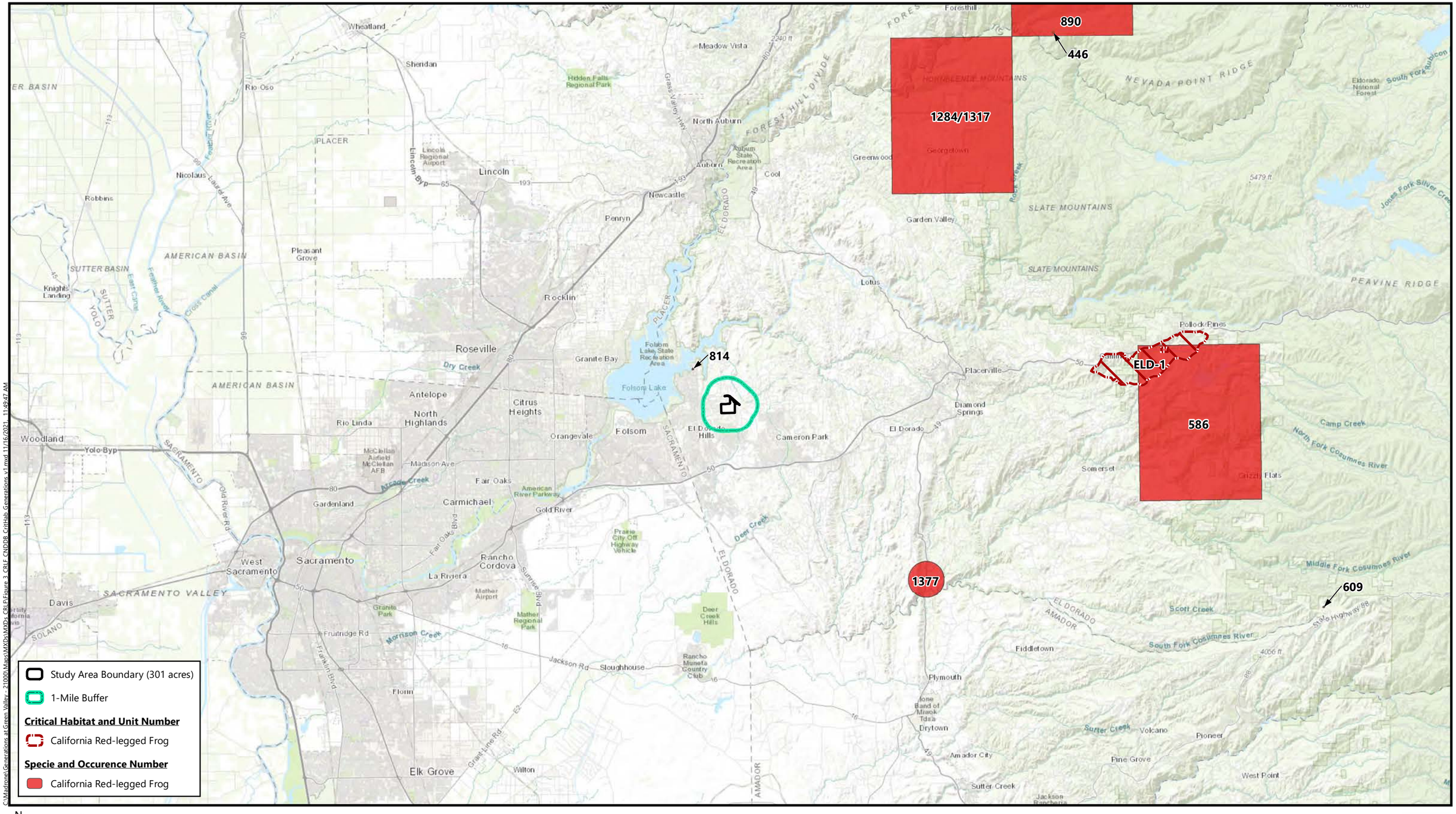
Figure 2
Aquatic Resources

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING



Source: *California Department of Fish and Wildlife,* November 2021.
Basemap Source: *National Geographic* and *ESRI*

Figure 3
California Natural Diversity Database Occurrences of California Red-legged Frog and California Red-legged Frog Critical Habitat
Generations at Green Valley
El Dorado County, California

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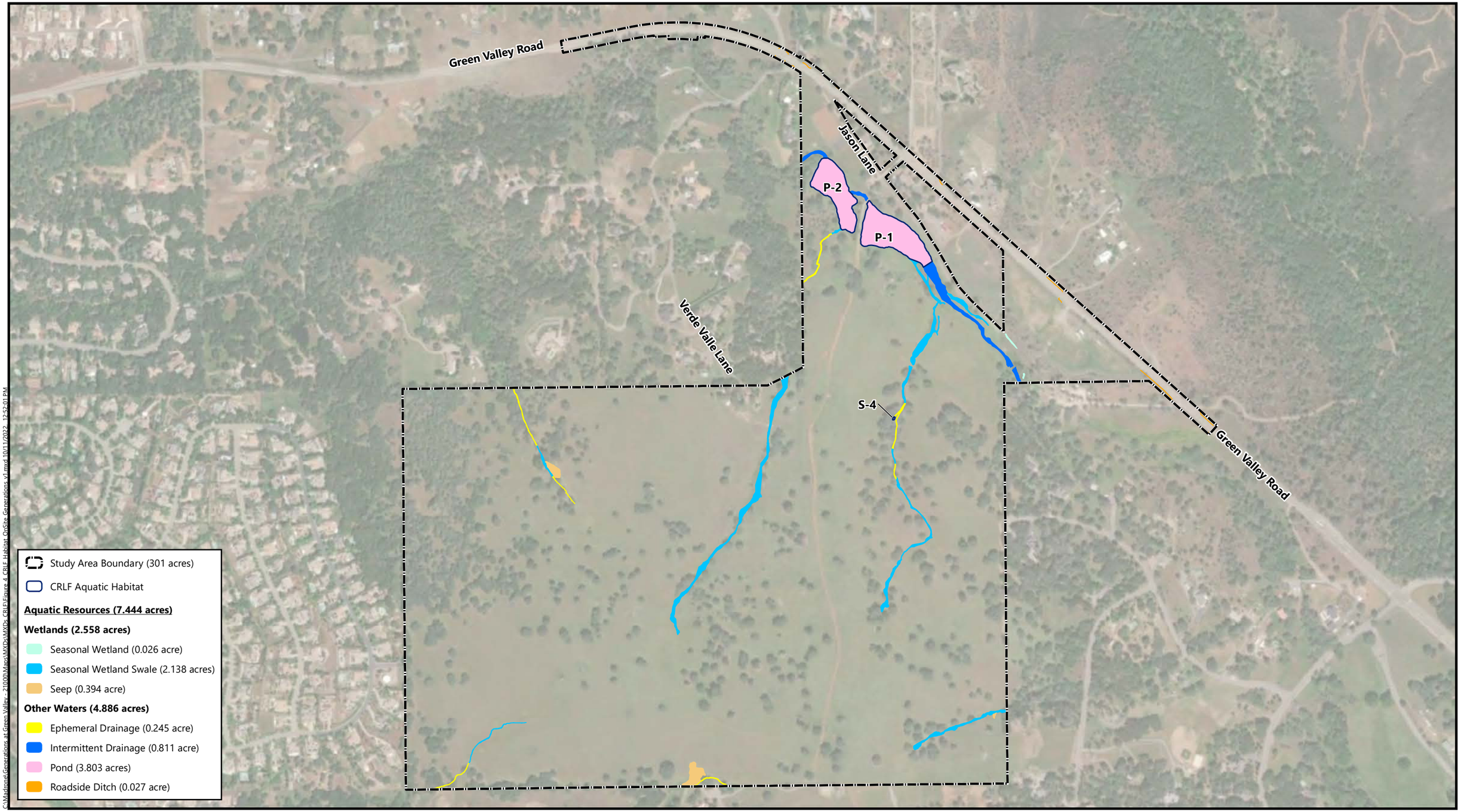

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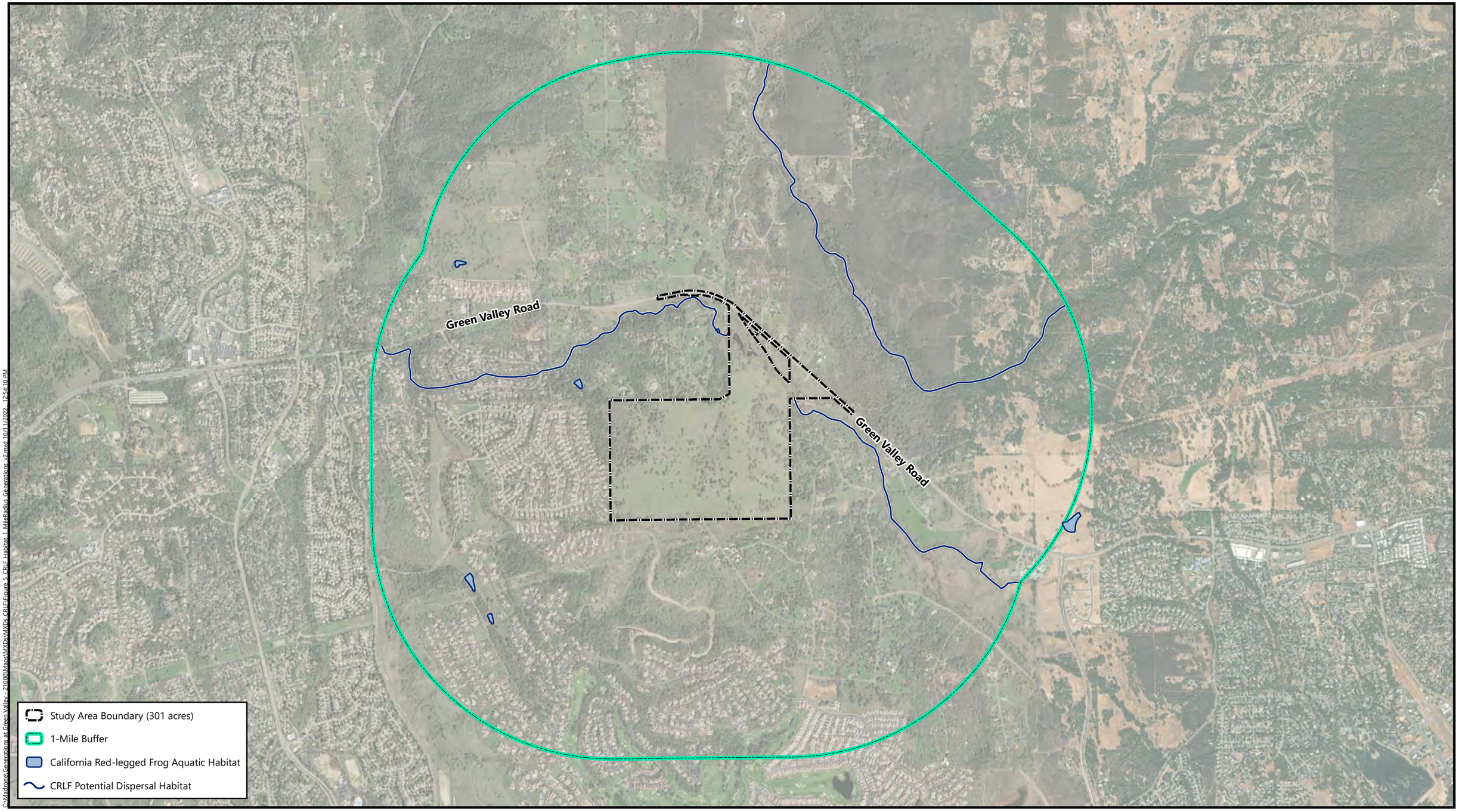
Aerial Source: Maxar, 1 May 2022.

Figure 4
California Red-legged Frog Habitat within the Study Area

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING



Aerial Source: Maxar, 1 May 2022.

Figure 5
California Red-legged Frog Habitat within 1-Mile of the Study Area

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

G:\Madrone\Generations at Green Valley - 21000\Maps\MXDs\MXDs_CRLF\Figure 5_CRLF Habitat 1 MileBuffer_Generations_v2.mxd 10/11/2022 12:54:10 PM

Attachments

Attachment A: Qualifications of Surveyor

Attachment B: Representative Site Photographs

Attachment C: Habitat Assessment Data Form

Attachment A

Qualifications of Surveyor

Surveyor Qualifications

Dustin Brown

Dustin Brown has more than 14 years of professional experience working as a consultant to both public agencies and the private sector, and has served as biologist for permitting and environmental assessment projects. He has conducted wildlife studies for a variety of terrestrial and aquatic species, including numerous studies involving federally and/or State-listed threatened and endangered wildlife species. Mr. Brown has conducted numerous biological resource investigations, habitat assessments, and jurisdictional wetland delineations for proposed projects. He routinely assesses existing biological resource databases and on-site survey data to evaluate potential impacts to special-status species including federal and/or state listed species, U.S. Forest Service Sensitive species, CNPS listed species, migratory bird species, and regionally sensitive species protected under local ordinances. These assessments often include the development of detailed study plans, developing and implementing literature and field studies, data acquisition, data analysis, impact assessments, mitigation planning, and other environmental documentation.

Mr. Brown has conducted studies and developed permits to meet the regulatory requirements of the federal Clean Water Act (Sections 404 and 401), the federal Endangered Species Act (Section 7 and Section 10), the California State Endangered Species Act (2050-2068, 2081), and the California Fish and Game Code Section 1602 governing activities that may affect fish and wildlife habitats associated with streams and lakes. He has developed several Biological Assessments per the USFWS and NOAA/NMFS guidelines and has worked on a variety of CEQA and NEPA documents including numerous NegDEC's, EIR's, EIS's, and EA's.

California Tiger Salamander

Mr. Brown was authorized under U.S. Fish and Wildlife Service 10(a)(1)(A) Permits TE-012973 and TE-48210A-1 to independently conduct CTS surveys and has personally conducted approximately 190 hours of CTS sampling and personally handled thousands of CTS larvae and over 89 juvenile and adult CTS

Mr. Brown has conducted protocol-level CTS habitat assessments on over ten properties in Calaveras, San Joaquin, Sacramento, Yolo, Stanislaus, Sonoma, San Benito, and Contra Costa Counties.

California Red-legged Frog

Mr. Brown was authorized under U.S. Fish and Wildlife Service 10(a)(1)(A) Permits TE-012973 and TE-48210A-1 to independently conduct CRLF surveys and has personally conducted approximately 60 hours of CRLF sampling and personally handled and observed approximately 62 CRLF larvae, 345 metamorph, 105 juveniles, and 45 adult CRLF.

Mr. Brown has conducted protocol-level habitat assessments for CRLF on over 10 properties in Placer, El Dorado, Calaveras, Sacramento, Sonoma, Marin, Monterey, San Ramon, Alameda, and Contra Costa Counties.

Attachment B

Representative Site Photographs

Facing northwest at Pond 1

Facing northwest at Pond 2

Facing southwest at Pond 2

Facing southeast at intermittent drainage (ID-2) that flows into Pond 1 - Potential CRLF Dispersal Habitat

Facing west at intermittent drainage (ID-3) that flows between Pond 1 and Pond 2 – Potential CRLF Dispersal Habitat

Facing east at the upland within the central portion of the Study Area on 5 November 2021

Facing south at Seep S-4 – Potential CRLF Aquatic Habitat

Facing north at Seep S-4 – Potential CRLF Aquatic Habitat

Facing East at Seep S-2 (western portion of the Study Area) on 19 February 2021 – Not suitable CRLF Aquatic Habitat

Attachment C

Habitat Assessment Data Form

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 11/5/2021
(mm/dd/yyyy)

Site Assessment Biologists: Brown (Last name) Dustin (first name) _____ (Last name) _____ (first name)

_____ (Last name) _____ (first name) _____ (Last name) _____ (first name)

Site Location: El Dorado, Green Valley Road 1.25 mi. NW of Pleasant Grove Middle school
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Generations at Green Valley
Brief description of proposed action: Residential Development

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: Pond 1 Pond 2

Size: 500'x200' 450'x160' Maximum depth: Pond 1: 8' Pond 2: 10'

Vegetation: emergent, overhanging, dominant species: See notes below.

Substrate: soil and bedrock (80%/20% respectively)

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Pond 2 (downstream pond) is perennial and has mosquito fish. Bulrush along 60% of shoreline, Himalayan blackberry along 20% of shoreline. 10% of shoreline is lined with grasses. Surrounding land use includes strawberry farming and willow + rural residential to north and cattle-grazed oak woodland to the south. Depth is >10'.

Pond 1 (upstream pond) - This is a seasonal pond that has a max depth of approx. 8 feet at base flow. Observed evidence of filling to 11' in depth during last heave rains. 30% emergent vegetation (scirpus), blackberry along 20% of shore along dam and SE bank. The rest of the bank is vegetated by grasses.

Appendix D.

California Red-legged Frog Habitat Site Assessment Data Sheet

This pond is fed by an intermittent drainage that is currently flowing ≈0.5 cfs. No fish or turtles observed in pond. No wading birds observed at this pond (likely no fish present). Water is clear. Surrounding land use is grasslands + oak woodlands that are cattle-grazed.

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Canada goose, mallard, western meadowlark, Anna's hummingbird, California quail, northern mockingbird, rattlesnake, Ca. towhee, red-winged blackbird, White-crowned sparrow, common gallinule, Wood duck, California scrub jay, Sierran chorus frog (calling in pond), great blue heron (Pond 2).

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species location

Evaluation of Potential California Red-Legged Frog (*Rana aurora draytonii*) Habitat on the Dixon Ranch Subdivision Project El Dorado County, California

Prepared by:

Eric C. Hansen
Consulting Environmental Biologist
4200 N. Freeway Boulevard, Suite 4
Sacramento, CA 95834

For:

Dixon Ranch Partners, LLC
949 Tuscan Lane
Sacramento, California 95864

September 9, 2013

Evaluation of Potential California Red-Legged Frog (*Rana aurora draytonii*) Habitat on the Dixon Ranch Subdivision Project, El Dorado County, California

INTRODUCTION

This report provides the results of California red-legged frog (*Rana aurora draytonii*) habitat suitability assessments on the Dixon Ranch Subdivision Project site (project site), located south of Green Valley Road in El Dorado County, California. A site visit was conducted for this purpose on 22 April 2013. The Louie Ponds consist of two contiguous impoundments situated in the Green Springs Creek corridor totaling approximately 3.8 acres in combined surface area. In order to provide an adequate regional perspective, an approximately 301-acre study area established during prior wetland delineations and rare plant species assessments (Gibson & Skordal 2011, 2012) were used to complete the assessment. The study area is located in Section 24, township 10 North, Range 8 East; Section 19, Township 10 North, Range 9 East, MDB&M, El Dorado County, California. The study area ranges from approximately 950-feet to 1240 feet in elevation, can be found at UTM 670,016 M E; 4,285,698 M N (Zone 10 North), and is portrayed on the Clarksville, California 7.5-Minute Series Topographic Quadrangle. Locator, vicinity, and detail maps are included in Figure 1 and Figure 2.

To access the site from Sacramento, drive east on Highway 50 into El Dorado County and exit to the north onto El Dorado Hills Boulevard, travel north on El Dorado Hills Boulevard, and then turn right onto Green Valley Road. Continue east on Green Valley Road until reaching West Green Springs Drive. The study area is located southeast of the West Green Springs Drive-Green Valley Road intersection. Existing or approved adjacent subdivisions include Green Springs Ranch to the east and southeast, Serrano to the southwest, and Highland View to the west.

The project site contains habitats suitable for California red-legged frogs, possessing both the aquatic and upland terrestrial habitats required by the species; however, the number of reported California red-legged frog occurrences in El Dorado County is low. No California red-legged frog locality records fall within one mile (1.6 km) of the project site Only one California red-legged frog locality record, consisting of one unverified juvenile frog (California Natural Diversity Database [CNDDB] Occurrence Number 814) falls within 2.8 miles (4.5 km) of the project site (CNDDB 2013). With the exception of the unverified juvenile frog reported near Folsom Lake, all California red-legged frogs recorded in this region of the Sierra Nevada occur above 2,000 feet, well above the approximately 1,050-foot mean elevation of the project site. While the project site contains habitat suitable for red-legged frogs, the presence of bullfrogs and predatory gamefish, distance from verified populations of red-legged frogs, and low site elevation relative to regional frog populations reduce the likelihood that red-legged frogs occur on the project site. The methodologies used to complete this assessment are presented below, and maps of regional species distribution are included as figures. Photographs of pertinent features and completed habitat assessment forms are included as Appendices A and B, respectively.

FIGURE 1. VICINITY MAP

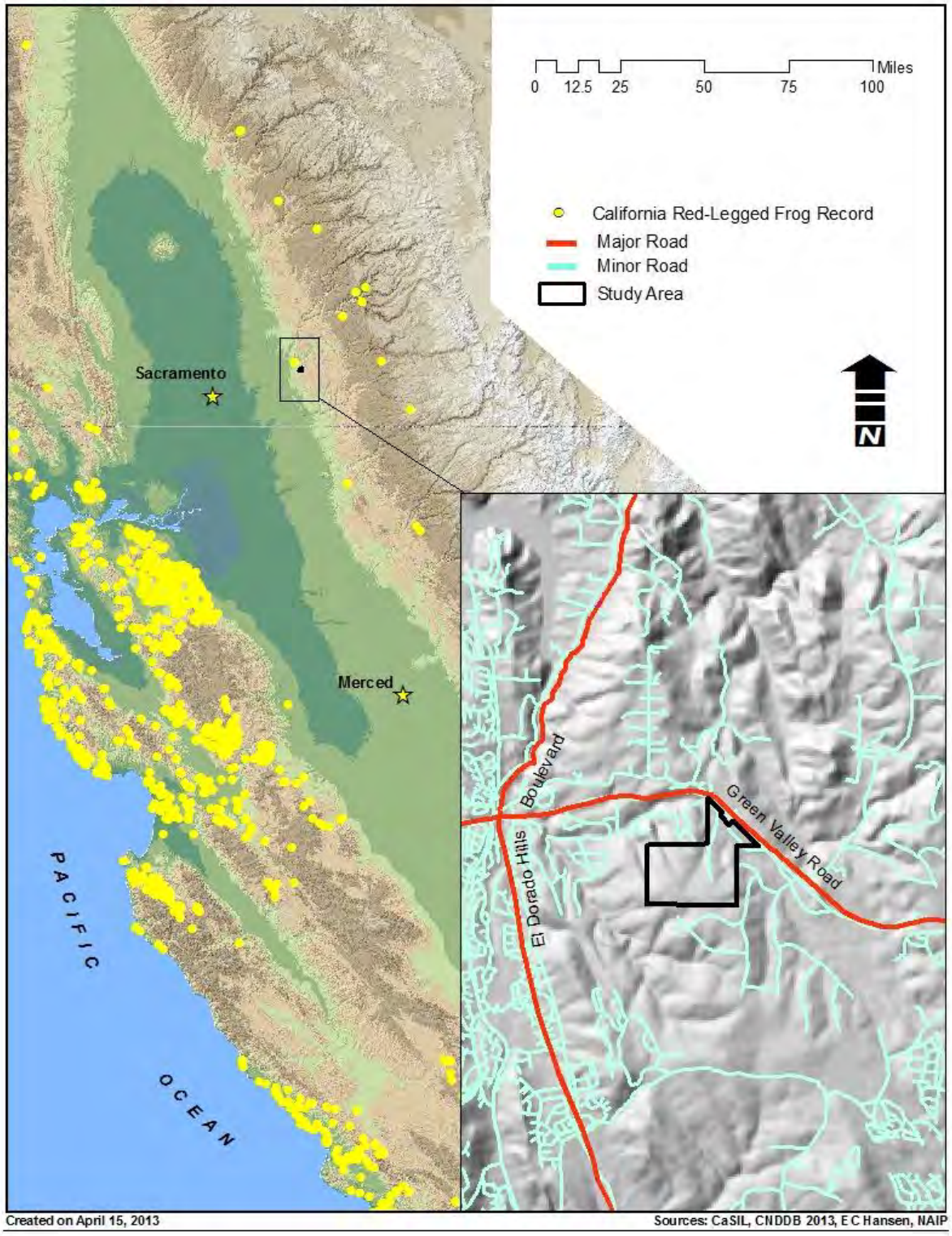
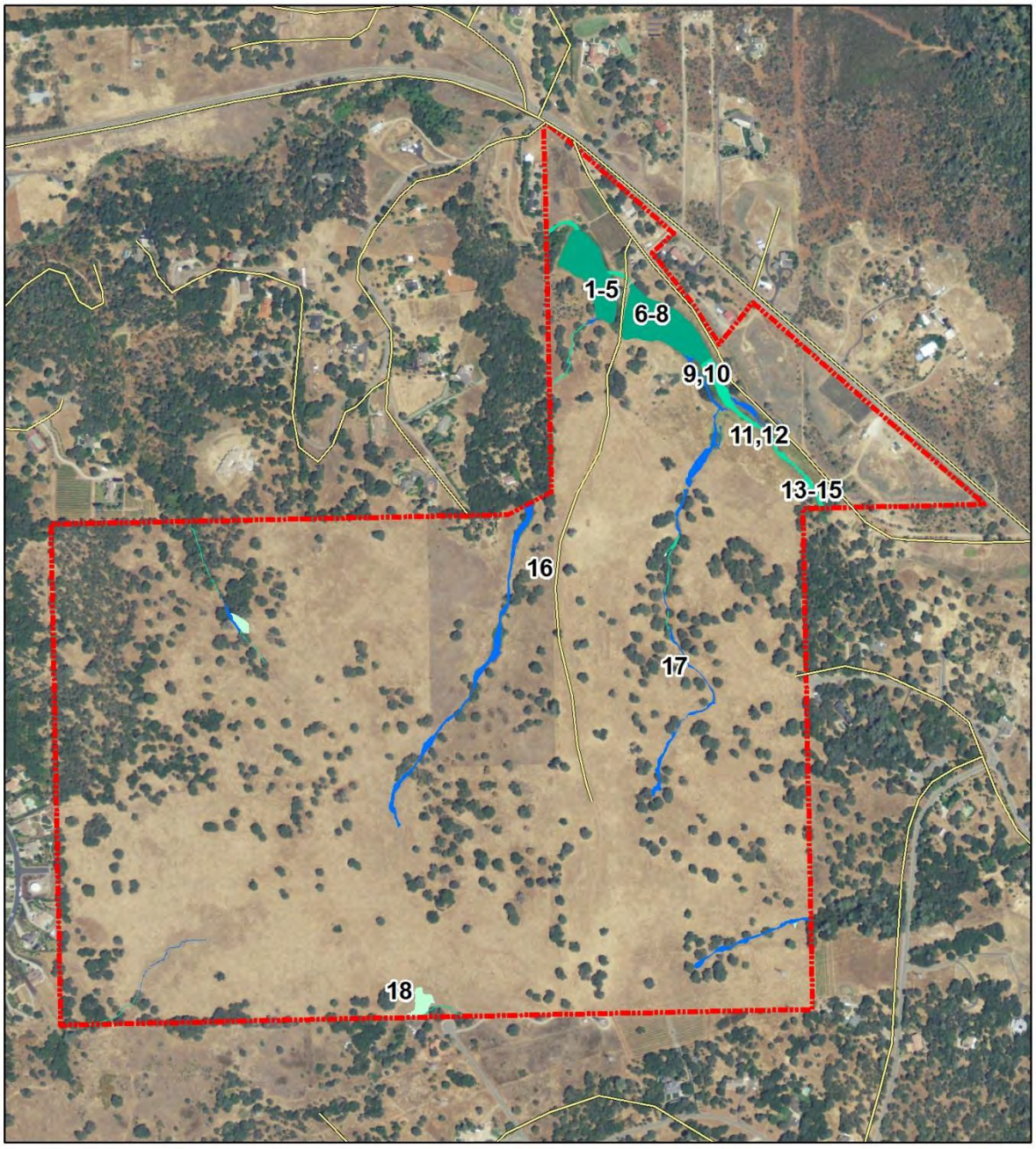


FIGURE 2. STUDY AREA DETAIL AND KEY TO PHOTOGRAPHS



HABITAT ASSESSMENT

Legal Status

The California red-legged frog was federally listed as Threatened on June 24, 1996 and is designated as a California Species of Special Concern.

Life History

This species is a lowland and foothill frog inhabiting moist environments from sea level to 2,440 meters (8,000 feet) (Stebbins 2003). It frequents the permanent cool waters of ponds, lakes, reservoirs, and streams offering dense shrubbery and emergent vegetation, such as cattails (*Typha* sp.), that provide cover and protection from predators. Red-legged frogs may disperse far from water to moist wooded areas following breeding. Individuals may engage in overland movements of up to 3.2 kilometers (2 miles) (Stebbins 2003).

The breeding period is short, often lasting only 1 to 2 weeks, usually from January to April, depending upon the locality and seasonal weather conditions. Larvae generally require 4 to 5 months to attain metamorphosis. Exotic species such as bullfrogs (*Lithobates catesbeianus*) and green sunfish (*Lepomis cyanellus*) compete with and prey upon red-legged frogs.

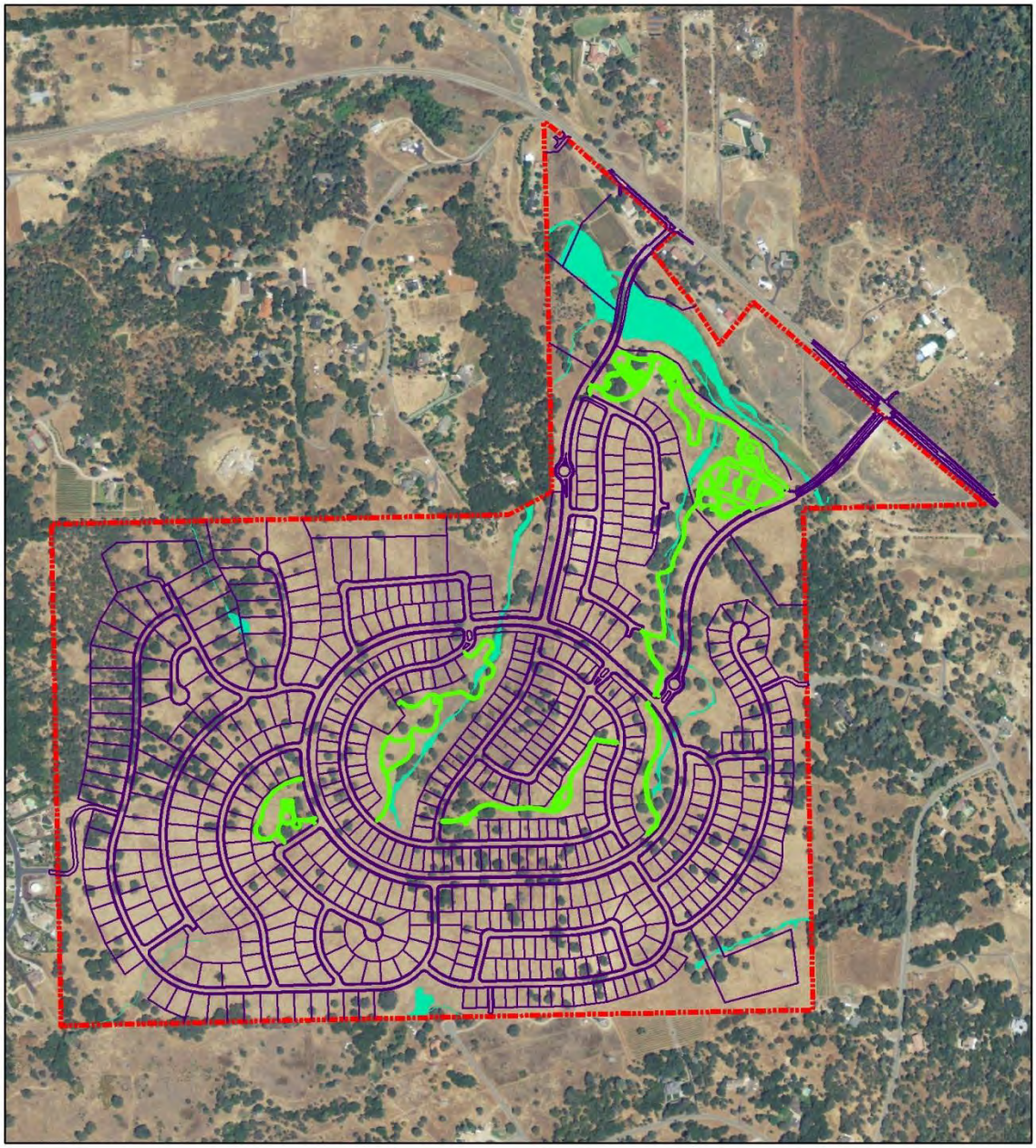
Proposed Action

Project Description

The Dixon Ranch Project proposes to subdivide 280+/- acres into 444 single family detached residential units, 160 age-restricted single family detached units (age restricted to older adults), and includes retention of one existing single family residence for a total of 604 new units and one existing unit. The project includes preservation or creation of 84.1+/- acres (30%) of open space including parks, trails, landscaped lots, and native open spaces. The project includes on-site and off-site infrastructure to serve the development. Construction of a clubhouse for the age-restricted units is also proposed. Build-out will likely occur over many years, but ultimately will be dictated by market demands. The proposed development plan is shown in Figure 3.

Required project approvals include: a General Plan Amendment (File No. A11-0006); Zone Change (File No. Z11-0008); Planned Development (File No. PD11-0006); Tentative Map (File No. TM11-1505); annexation into the El Dorado Irrigation District; annexation into the El Dorado Hills Community Service District; and annexation into the El Dorado Hills County Water District (El Dorado Hills Fire Department).

FIGURE 3. PROPOSED DEVELOPMENT PLAN



Created September 13, 2013

Source: CNDDB 2013; Gibson & Skordal, LLC; CTA Engineering; NAIP

General Plan Amendment Description

The project is currently located entirely within the General Plan Community Region (urban limit line) of El Dorado Hills and is designated as Low Density Residential (LDR) land use, with the exception of 1.5+/- acres at the southeast corner of the property that is designated as Open Space (OS) and associated with the existing SMUD power transmission corridor. LDR allows for a maximum density of 1 dwelling unit per 5 acres. The proposed project is applying for a change in the land use designations on the site to High Density Residential (HDR) allowing for a density range of 1 to 5 units per acre; Medium Density Residential (MDR) allowing for a maximum of 1 dwelling unit per acre; and Open Space (OS). The proposed project is retaining the existing Low Density Residential (LDR) land use designation for the existing residence to remain.

Planned Development Description

The project is a planned development. Proposed uses within the project are as follows:

1) 444 single family detached residential units with lot sizes ranging from 5,775 sf to 3.32 ac

Product Type	Qty	Land Use
Village Small Lot	149	HDR
Village Large Lot	173	HDR
Hillside	54	HDR
Hillside Custom	58	HDR
Estate Residential	5	MDR
Estate Residential Large Lot	5	MDR
	444	

2) 160 age-restricted single family detached residential units with lot sizes ranging from 4,725 sf to 12,685 sf

Product Type	Qty	Land Use
Age-Restricted Small Lot	80	HDR
Age-Restricted Large Lot	80	HDR
	160	

3) One existing Low Density Residential (LDR) unit to remain.
4) One Clubhouse lot (Lot C)
5) One EID lot for a proposed pump station
6) Public and private roadways
7) 84.1+/- acres or 30% total open space, including native open space, parks and landscape lots.
    a. Includes 11.14 acres of Parks including:
        - One Village Park (Lot A)
        - One Neighborhood Park (Lot B)

Lighting

Outdoor lighting in conformance with Section 17.14.170 of the County Ordinance Code is anticipated to be provided at major intersections, mid-block pedestrian crossings, along sag vertical curves where needed to establish adequate sight distance and as appropriate for public safety. Limited safety and security lighting and indirect shielded lighting will also be provided at park sites, gates and clubhouse including but not limited to parking areas, play areas, and walkways where appropriate. The project does not propose to use lighted ball fields or other light intensive uses at the proposed park sites.

Existing Field Conditions

The project site is situated in the foothills of the Sierra Nevada on rolling to relatively flat terrain at an average elevation of about 1,050 feet. The project site is primarily used as pasturage and currentlycontains two habitable structures. Newer residential developments are located to the west while ranchettes occupy lands to the north and east. The site was very lightly grazed by cattle and horses at the time of field surveys.

The majority of the site generally drains to the north/northeast into Green Spring Creek. Green Spring Creek, which traverses the northern portion of the study area from east to west, is tributary to Folsom Reservoir by way of New York Creek. The southwestern corner of the parcel appears to drain to the south towards Allegheny Creek which is located outside of the study area boundary. Allegheny Creek is also tributary to Folsom Reservoir by way of Green Spring Creek and New York Creek, respectively.

Methods

A field assessment was conducted on 22 April 2013 according to U.S. Fish and Wildlife Service (USFWS) guidelines (April 4, 1997 Memorandum 1-1-97-TA-1093 Dissemination of Interim Guidance on Site Assessment and Field Surveys for California Red-Legged Frogs; August 2005 Revised Guidance on Site Assessment and Field Surveys for California Red-Legged Frogs). These guidelines require that in assessing the likelihood that California red-legged frogs may occur at a given locale, information satisfying the following elements should be compiled and submitted to USFWS for further evaluation and guidance:

Element 1. Is the project within the current or historic range of the California red-legged frog?

Element 2. What are the known localities of California red-legged frog within the project site and within 1 mile (1.6 kilometers) (km) of the project boundaries? This is to place the project in regional perspective.

Element 3. What are the habitats within the project site and within 1 mile (1.6 km) of the project boundaries?

To satisfy these elements, first, California red-legged frog locality records were obtained by conducting a computer search of the most recent version of the CNDDB (2013). Next, to place the project in regional perspective, records falling within 1- and 30-mile (1.6 and 48.3-kilometer) radii of the project site were identified using the Geographic Information Systems (GIS) program ArcMap 9.2. GIS-generated maps are used to illustrate red-legged frog distribution relative to the project site (see Figure 1, Figure 3). Finally, habitats within and surrounding the project site were identified using a combination of site plans, field surveys, and GIS analysis using digitized USGS 7.5-minute topographic maps and digital orthographic quarter quadrangle (DOQQ) maps (digitized aerial maps) from the California Spatial Information Library (http://gis.ca.gov/).

While specific protocol level field surveys for California red-legged frogs were not conducted as part of this assessment, cursory field surveys for other special-status reptiles and amphibians were conducted incidental to this assessment, particularly for those species frequently associated with habitats favored by California red-legged frogs. Results are provided below.

Results

Element 1 — The project site is situated at the edge of the easterly extent of the California red-legged frog's historical range along the western slopes of the Sierra Nevada, which extends from Plumas County south to Tuolumne County (Jennings and Hayes 1994, CNDDB 2013).

Element 2 —The project site lies approximately 2.8 mile (4.5 km) from the (unverified) juvenile frog reported on the east side of Folsom Lake, southwest of Iron Mountain, 17.7 miles (28.5 km) from undisclosed localities in El Dorado County (Georgetown Quad), and 23.6 miles (40.0 km) from the other two verified populations of California red-legged frogs extant in this portion of the Sierra Nevada (Michigan Bluff area and Weber Creek) (CNDDB 2013). All other records documented within El Dorado County and adjacent Placer County fall more than 25 miles (40.2 km) from the project site; records are reported in Table 1 and are depicted in Figure 1 and Figure 4.

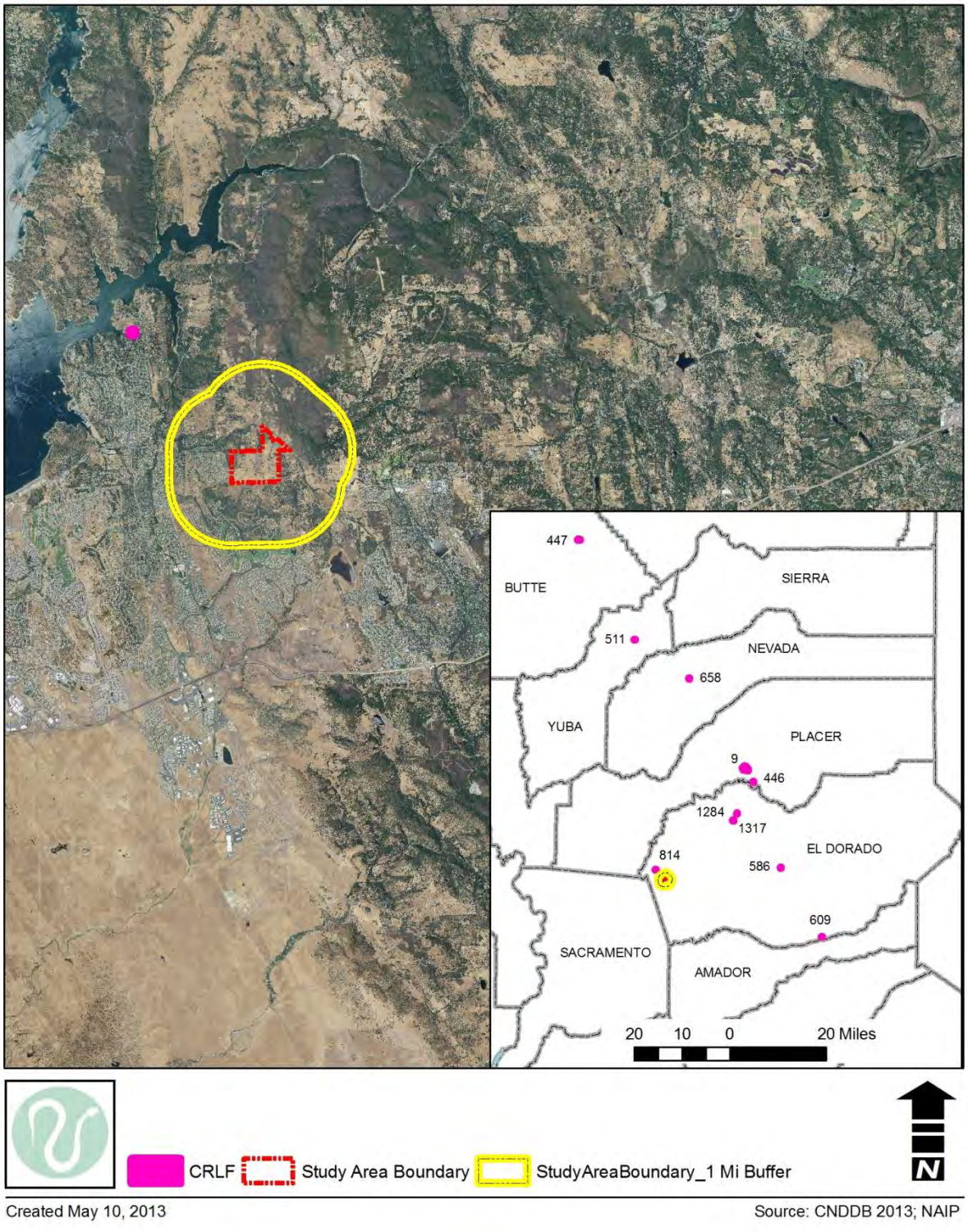
Element 3 — Habitats associated with Green Springs Creek possess both aquatic and upland characteristics suitable for California red-legged frogs. Aquatic habitats consist of interconnected streams, swales, and associated wetlands. Terrestrial habitats consist mostly of foothill oak woodland. Habitats are described in detail below. Photographs of selected site features are included in Appendix A.

Table 1. CNDDB occurrence records within approximately 50 miles (80.5 km) of the project site

Occ. No.	USGS 7.5' Topographic Quadrangle	Township	Range	Section	County	Year Last Seen	Approx.Distance from Project Site	Elevation
9	Michigan Bluff	14N	11E	21	Placer	Pre-1951	28.6 mi	3,400 ft
446	Michigan Bluff	13N	11E	01	Placer	2001	26.7 mi	3,200 ft
511	Challenge	18N	07E	10	Yuba	2003	50.4 mi	2,100 ft
586	Sly Park	10N	12E	01	El Dorado	2002	23.6 mi	3,200 ft
609	Caldor	18N	14E	21	El Dorado	2002	34.4 mi	4,200 ft
658	North Bloomfield	17N	09E	27	Nevada	2007	42.3 mi	3,050 ft
814	Clarksville	10N	08E	10	El Dorado	2005	2.8 mi	800 ft
890*	Michigan Bluff	--	--	--	Placer	2006	28.9 mi	--
1284	Georgetown	--	--	--	El Dorado	2009	19.3 mi	--
1317	Georgetown	--	--	--	El Dorado	2009	17.7 mi	--

*Details for records displayed in red are suppressed in the commercial version of the CNDDB

FIGURE 4. PROJECT SITE RELATIVE TO CNDDB OCCURRENCE RECORDS



Created May 10, 2013

Source: CNDDB 2013; NAIP

Habitats within 1 mile (1.6 km) of the Project Site

Plant Communities

Plant communities are described by Gibson & Skordal (2011). The study area encompasses several habitat types including non-native annual grasslands, foothill oak savannah/woodland, and numerous water features including agricultural ponds, intermittent and ephemeral drainages, seasonal wetlands, and seeps. The majority of the site supports oak savannah/woodland composed of valley oaks (*Quercus lobata*), live oaks (*Quercus wislizenii*), and blue oaks (*Quercus douglasii*).

The understory consists of dogtail (*Cynosurus echinatus*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), medusa head (*Taeniatherum caput-medusae*), and soft chess (*Bromus hordeaceus*). Interspersed between the oak woodlands/savannah are areas of non-native annual grasslands characterized by wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), and medusa-head (*Taeniatherum caput-medusae*). Other common species include yellow start-thistle (*Centaurea solstitialis*), perennial rye grass (*Lolium perenne*), little quacking grass (*Briza minor*), soft chess (*Bromus hordeaceus*), prickly lettuce (*Lactuca serriola*), and split-leaf geranium (*Geranium dissectum*).

Hydrology

Wetland components are described by Gibson & Skordal (2012). Green Springs Creek and two in-channel impoundments referred to as the Louie Ponds represent the largest water features within the study area. Green Springs Creek and its associated ponds contained several inches of flowing water and supported thick growths of hardstem bulrush (*Scirpus acutus*), creeping spike rush (*Eleocharis macrostachya*), and narrow-leaf cattails (*Typha angustifolia*). Woody vegetation consisted of cottonwoods (*Populus fremontii*) and narrow-leaf willow (*Salix exigua*). Several wetland swale-seep complexes are located within the hillier southern portion of study area. Seeps are most often associated with sloping terrain and derived primarily from groundwater seepage in the winter and spring, while seasonal wetland swales represent vegetated linear sloping drainages that lack a defined bed and bank. Common species included Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), curly dock (*Rumex crispus*), perennial rye grass (*Lolium perenne*), water cress (*Rorippa nasturtium-aquaticum*), tall flat sedge (*Cyperus eragrostis*), and spiny-fruited buttercup (*Ranunculus muricatus*). Photographs of the individual features are provided in Appendix A.

Soils

According to the April 1974, "**Soil Survey of El Dorado Area, California**," four soil map units occur within the study area: Auburn very rocky silt loam, 2-30 percent slopes (AxD), Auburn silt loam, 2-30 percent slopes (AwD), Placer diggings (PrD), and Serpentine Rock Land (SaF).

Observed Species

Adult bullfrogs and juvenile Centrarchid fishes (*Lepomis* spp.) were observed within Green Springs Creek and the Louie Ponds; both species can compete with and prey upon red-legged frogs. Larval Western toad (*Bufo boreas*) and Sierran treefrog (Formerly *Pseudacris regilla* - Pacific Treefrog) were also observed, but neither are known to adversely affect red-legged frogs.

SUMMARY

Permanent, suitable red-legged frog habitat is present on the project site within Green Springs Creek and the associated impoundment referred to as the Louie Ponds. Although drainage features on-site are characterized as ephemeral or intermittent, they also provide potential habitat for dispersing red-legged frogs when they are flowing or when they possess pooled water following winter and spring rains. Although no red-legged frogs were observed during the field surveys, there is ample supporting habitat on the project site.

Adult bullfrogs and juvenile Centrarchid fishes (*Lepomis* spp.) were observed within Green Springs Creek and Louie Pond, both of which can compete with and prey upon red-legged frogs. Larval Western toad (*Bufo boreas*) and Sierran treefrog (Formerly *Pseudacris regilla* - Pacific Treefrog) were also observed, but neither are known to adversely affect red-legged frogs.

The regional presence of California red-legged frogs remains unverified. A juvenile (unverified) California red-legged frog was reported in 2005 within 2.8 miles (4.5 km) of the Proposed Project from a drainage at the end of Fitch Way, on the east side of Folsom Lake, southwest of Iron Mountain and north of Highway 50 (CNDDB 2013), but no others are reported from the immediate vicinity. California red-legged frogs have been verified in recent years in El Dorado County in Weber Creek, near Placerville (early 1990s) (Miriam Green Associates 1996, CNDDB 2013), in southern Placer County near Georgetown, and in Placer County near Michigan Bluff, but no verified populations are reported within 17.7 miles (28.5 km) of the project site. With the exception of the unverified juvenile frog reported near Folsom Lake, all California red-legged frogs recorded in this region of the Sierra Nevada occur above 2,000 feet, well above the approximately 1,050-foot mean elevation of the project site.

In closing, while the project site contains habitat suitable for red-legged frogs, the presence of bullfrogs and predatory gamefish, distance from verified populations of red-legged frogs, and low site elevation relative to regional frog populations reduce the likelihood that red-legged frogs occur on the project site.

REFERENCES

California Natural Diversity Database (CNDDB). Commercial Version, April 2013. Geographic Information Systems (GIS) data and computer printout of sensitive species records in California. California Department of Fish and Game, Natural Heritage Division, Sacramento, CA.

Jennings, R.M. and M.P. Hayes. 1994. Amphibian and reptile species of special concern in California. Final report submitted to the California Department of Fish and Game Inland Fisheries Division, Rancho Cordova, CA: Contract 8023. 255 pp.

Gibson & Skordal, LLC. 2011. Special Status Plant Species Evaluation, Dixon Ranch, El Dorado County, California. Prepared for Dixon Ranch Partners, LLC. Prepared August, 201.

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Stebbins, R.C. 2003. A field guide to western reptiles and amphibians. 3rd edition. Houghton Mifflin Co.

Appendix A: Photographs

1. Outflow to lower pond (NW).

2. Lower pond (WNW).

3. Lower pond showing vegetation at center crossing (NW).

4. S side lower pond showing edge characteristics - center crossing in background (NNE).

5. S side of lower pond showing edge characteristics - center crossing in background (NW).

6. One of many adult bullfrogs observed in upper pond (east end).

7. Outflow from upper pond (E end) (SE).

8. Lower pond showing vegetation at center crossing (SE).

9. Gravel-bottomed channel of Green Springs Creek flowing into upper pond (NW). Hardstem bulrush in background.

10. Gravel-bottomed channel of Green Springs Creek flowing into upper pond (SE). Hardstem bulrush in background.

11. Overhanging vegetation (*Rubus* spp.) along the margin of Green Springs Creek (W).

12. Intermittent riffles along Greens Creek (ESE).

13. Green Springs Creek at the E end of the project site (WNW).

14. Green Springs Creek upstream of the E end of the project site (SE).

15. Western toad larvae in Green Springs Creek at the E end of the project site.

16. Seasonal wet swale at the W center of the project site (see Figure 2).

17. Seasonal wet swale at the E center of the project site (see Figure 2).

18. Depressional seeps at the southern edge of the project site (see Figure 2).

Appendix B

California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 04/22/2013
(mm/dd/yyyy)

Site Assessment Biologists: Hansen, Eric
(Last name) **(first name)**

_____
(Last name) **(first name)**

_____
(Last name) **(first name)**

_____
(Last name) **(first name)**

Site Location: **El Dorado County, Dixon Ranch Project, UTM 670,016 E; 4,285,698 N (Zone 10 N)**
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)**

Proposed project name: Dixon Ranch Subdivision Project
Brief description of proposed action: The Dixon Ranch Project proposes to subdivide 280+/- acres into 444 single family detached residential units, 160 age-restricted single family detached units (age restricted to older adults), and includes retention of one existing single family residence for a total of 604 new units and one existing unit. The project includes preservation or creation of 84.1+/- acres (30%) of open space including parks, trails, landscaped lots, and native open spaces. The project includes on-site and off-site infrastructure to serve the development. Construction of a clubhouse for the age-restricted units is also proposed. Build-out will likely occur over many years, but ultimately will be dictated by market demands.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO

If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 3.8 acres (2.1 acre and 1.7 acres per pond section) Maximum depth: < 4m

Vegetation: Green Springs Creek and its associated ponds contained several inches of flowing water and supported thick growths of hardstem bulrush (Scirpus acutus), creeping spike rush (Eleocharis macrostachya), and narrow-leaf cattails (Typha angustifolia). Woody vegetation consisted of cottonwoods (Populus fremontii) and narrow-leaf willow (Salix exigua).

Substrate: sand, rock, and cobble

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry:_____

Ponds

Appendix B

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: N/A

Depth at bank full: N/A

Stream gradient: _____

Are there pools (circle one)? YES NO (dry at time of site visit)

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs (see Appendix A, photos 1-8)
3. Maps with important habitat features and species location (see Figure 2)

Ponds

Appendix B

California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 04/22/2013
(mm/dd/yyyy)

Site Assessment Biologists: Hansen, Eric _____
(Last name) **(first name)** **(Last name)** **(first name)**

_____ _____
(Last name) **(first name)** **(Last name)** **(first name)**

Site Location: **El Dorado County, Dixon Ranch Project, UTM 670,016 E; 4,285,698 N (Zone 10 N)**
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)**

Proposed project name: Dixon Ranch Subdivision Project
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1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO

If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: N/A Maximum depth: N/A

Vegetation: _____

Substrate: _____

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: _____

Green Springs Creek

Appendix B

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: ± 4 meters

Depth at bank full: < 0.5 meter

Stream gradient: <1%

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: ± 100 meters^2

Maximum depth of stream pools: <0.5 meter

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: Green Springs Creek and its associated ponds contained several inches of flowing water and supported thick growths of hardstem bulrush (*Scirpus acutus*), creeping spike rush (*Eleocharis macrostachya*), and narrow-leaf cattails (*Typha angustifolia*). Woody vegetation consisted of cottonwoods (*Populus fremontii*) and narrow-leaf willow (*Salix exigua*).

Substrate: mixed soil and cobble

Bank description: mixed slope to undercut with open sand and gravel as well as well as woody and herbaceous vegetation

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: Unknown

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs (see Appendix A, photos 9-15)
3. Maps with important habitat features and species location (see Figure 2)

Green Springs Creek

Appendix B

California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 04/22/2013
(mm/dd/yyyy)

Site Assessment Biologists: Hansen, Eric _____
(Last name) **(first name)** **(Last name)** **(first name)**

_____ _____
(Last name) **(first name)** **(Last name)** **(first name)**

Site Location: **El Dorado County, Dixon Ranch Project, UTM 670,016 E; 4,285,698 N (Zone 10 N)**
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

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1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO

If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: _____ Maximum depth: _____

Vegetation: _____

Substrate: _____

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: _____

Seasonal Wetland Swales

Appendix B

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: <2 meters

Depth at bank full: N/A

Stream gradient: <5%

Are there pools (circle one)? YES NO (dry at time of site visit)

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: observed seasonal wetland swales represent vegetated linear sloping drainages that lack a defined bed and bank. Common species included Mediterranean barley (Hordeum marinum ssp. gussoneanum), curly dock (Rumex crispus), perennial rye grass (Lolium perenne), water cress (Rorippa nasturtium-aquaticum), tall flat sedge (Cyperus eragrostis), and spiny-fruited buttercup (Ranunculus muricatus).

Substrate: _____

Bank description: _____

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: Unknown

Other aquatic habitat characteristics, species observations, drawings, or comments:
Dry at reaches viewed during this 22 April 2013 field visit. Described by Gibson & Skordal (2012) as ephemeral features.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs (see Appendix A, photos 16-18)
3. Maps with important habitat features and species location (see Figure 2)

Seasonal Wetland Swales

Evaluation of Potential California Red-Legged Frog (*Rana aurora draytonii*) Habitat and Presence for the Dixon Ranch Subdivision Project, El Dorado County, California

Prepared by:

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For:

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Roseville, California 95661

August 25, 2016

Evaluation of Potential California Red-Legged Frog (*Rana aurora draytonii*) Habitat and Presence for the Dixon Ranch Subdivision Project, El Dorado County, California

INTRODUCTION

This report provides results of protocol-level species surveys conducted for the California red-legged frog (*Rana aurora draytonii*) on the Dixon Ranch Subdivision Project site (project site), located south of Green Valley Road in El Dorado County, California. A site visit was conducted for the purpose of assessing habitat suitability on 22 April 2013 and conditions were verified on June 5, 2015. A habitat assessment report was provided to the U.S Fish and Wildlife Service (Service) Forest Foothills Division on May 5, 2015[1]. Site conditions were validated on June 5, 2015. While formal guidance has not yet been provided, prior conversations with Mr. Chris Nagano suggest that presence of suitable habitat relative to regional species records likely warrant species-level surveys for sites in this region. As a proactive step to provide additional information while the Service reviewed the project, protocol species-level (breeding season) surveys were conducted in June of 2015. Although species-level surveys were not initiated in time to complete them in full by June 30, a report of interim findings was prepared on July 18, 2015[2] with the intention of providing results facilitating U.S Fish and Wildlife Service guidance on the project.

As stated in the May 5, 2015 habitat assessment report, the project site contains habitats suitable for California red-legged frogs, possessing both the aquatic and upland terrestrial habitats required by the species; however, the number of reported California red-legged frog occurrences in El Dorado County is low. The suitable habitats on the project site consist of two contiguous pond impoundments situated in the Green Springs

---

[1] *Evaluation of Potential California Red-Legged Frog (Rana aurora draytonii) Habitat on the Dixon Ranch Subdivision Project*
El Dorado County, California . Prepared by Eric C. Hansen, Consulting Environmental Biologist, 4200 N. Freeway Boulevard, Suite 4, Sacramento, CA 95834. Prepared for Dixon Ranch Partners, LLC, 949 Tuscan Lane, Sacramento, California 95864. September 9, 2013.

2 *Evaluation of Potential California Red-Legged Frog (Rana aurora draytonii) Habitat and Presence for the Dixon Ranch Subdivision Project, El Dorado County, California*. Prepared by Eric C. Hansen, Consulting Environmental Biologist, 4200 N. Freeway Boulevard, Suite 4, Sacramento, CA 95834. Prepared for Dixon Ranch Venture. LLC, 12647 Alcosta Boulevard, Suite 470, San Ramon, CA 94583. July 18, 2015.

Creek corridor totaling approximately 3.8 acres in combined surface area, and the Green Springs Creek corridor. Locator, vicinity, and detail maps are included in Figures 1 and 2.

The methodologies used to complete assessments and surveys are presented below, and maps of regional species distribution are included as figures. Photographs of pertinent features and completed habitat assessment and species-level survey forms are included as Appendices A, B and C, respectively.

FIGURE 1. VICINITY MAP

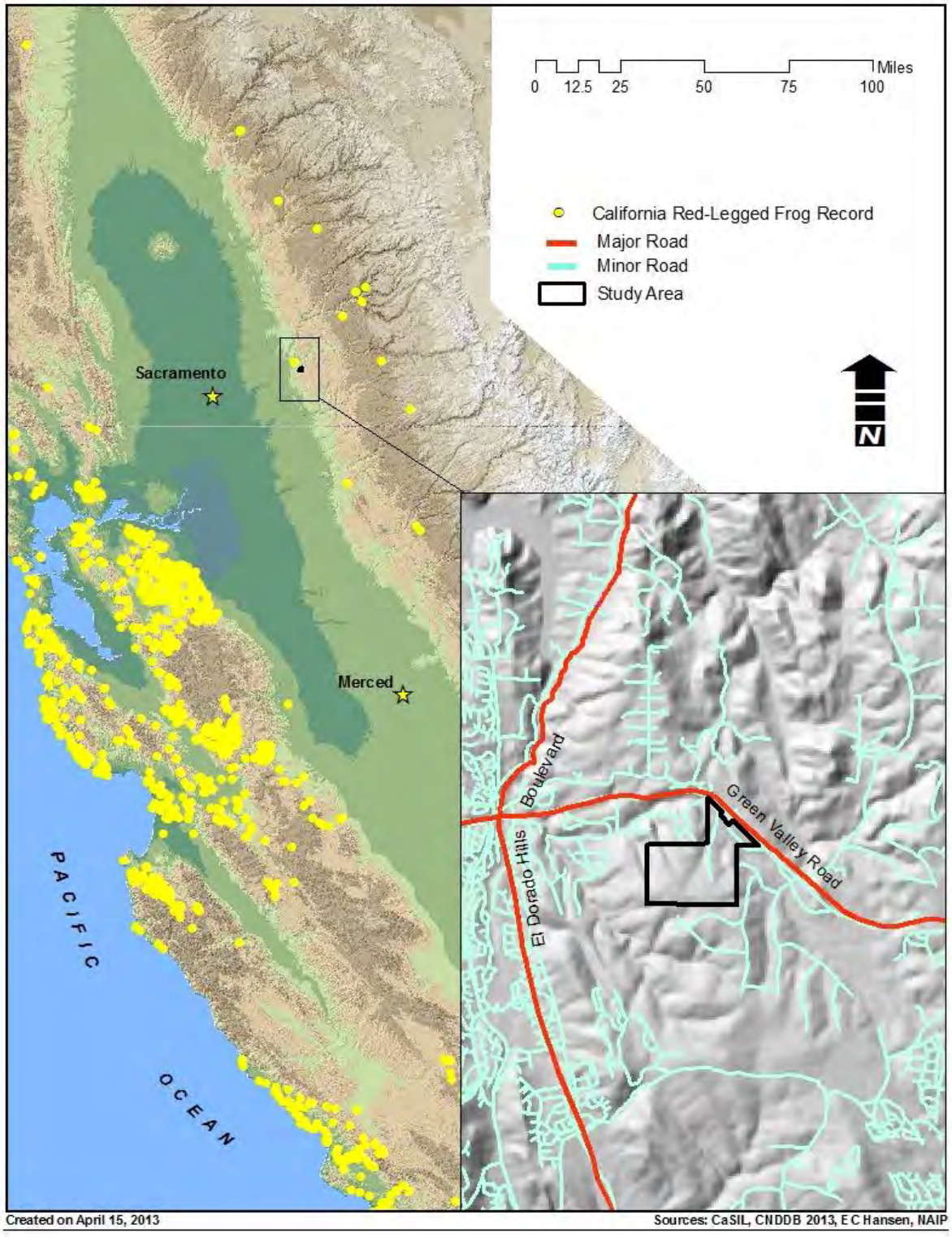
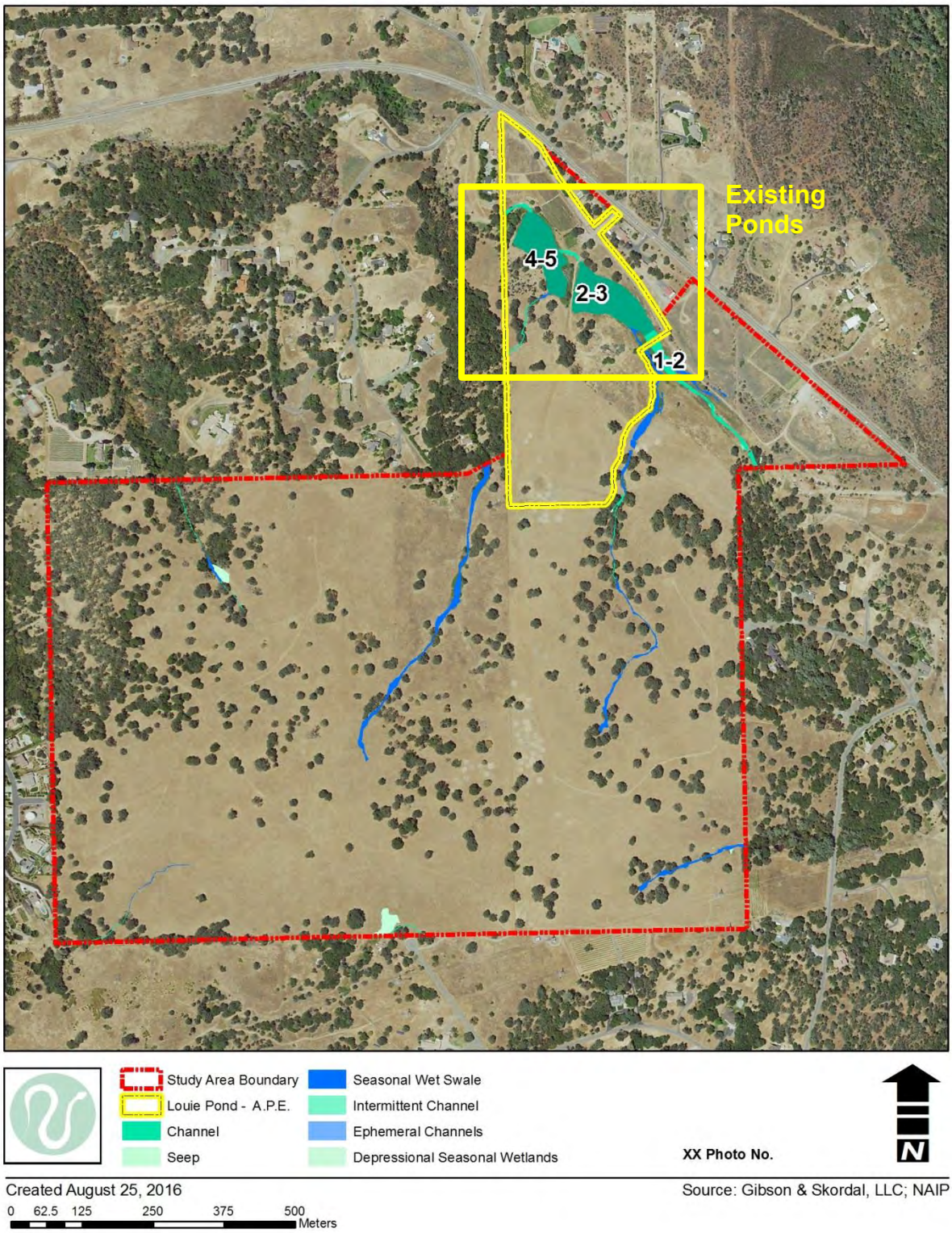


FIGURE 2. STUDY AREA DETAIL AND KEY TO PHOTOGRAPHS



PROJECT AREA LOCATION, BACKGROUND, AND EXISTING CONDITIONS

Green Springs Creek runs through the project site generally east to west, and the existing ponds on the project site consist of two contiguous impoundments situated in the Green Springs Creek corridor totaling approximately 3.8 acres in combined surface area. The study area is located in Section 24, township 10 North, Range 8 East; Section 19, Township 10 North, Range 9 East, MDB&M, El Dorado County, California. The study area can be found at UTM 670,016 M E; 4,285,698 M N (Zone 10 North) and is portrayed on the Clarksville, California 7.5-Minute Series Topographic Quadrangle. In order to provide an adequate regional perspective, an approximately 301-acre study area established during prior wetland delineations and rare plant species assessments (Gibson & Skordal 2011, 2012) were used to complete the habitat assessment. To access the site from Sacramento, drive east on Highway 50 into El Dorado County and exit to the north onto El Dorado Hills Boulevard, travel north on El Dorado Hills Boulevard, and then turn right onto Green Valley Road. Continue east on Green Valley Road until reaching West Green Springs Drive. The study area is located southeast of the West Green Springs Drive-Green Valley Road intersection.

PROPOSED ACTION

The Dixon Ranch project proposes to subdivide 280+/- acres into 444 single family detached residential units, 160 age-restricted single family detached units (age restricted to older adults), and includes retention of one existing single family residence for a total of 604 new units and one existing unit. The project includes preservation or creation of 84.1+/- acres (30%) of open space including parks, trails, landscaped lots, and native open spaces. The project includes on-site and off-site infrastructure to serve the development. Construction of a clubhouse for the age-restricted units is also proposed. Build-out will likely occur over many years, but ultimately will be dictated by market demands.

Required project approvals include: a General Plan Amendment (File No. A11-0006); Zone Change (File No. Z11-0008); Planned Development (File No. PD11-0006); Tentative Map (File No. TM11-1505); annexation into the El Dorado Irrigation District; annexation into the El Dorado Hills Community Service District; and annexation into the El Dorado Hills County Water District (El Dorado Hills Fire Department).

General Plan Amendment Description

The project is currently located entirely within the General Plan Community Region (urban limit line) of El Dorado Hills and is designated as Low Density Residential (LDR) land use, with the exception of 1.5+/- acres at the southeast corner of the property that is designated as Open Space (OS) and associated with the existing SMUD power transmission corridor. LDR allows for a maximum density of 1 dwelling unit per 5 acres.

The proposed project is applying for a change in the land use designations on the site to High Density Residential (HDR) allowing for a density range of 1 to 5 units per acre; Medium Density Residential (MDR) allowing for a maximum of 1 dwelling unit per acre; and Open Space (OS). The proposed project is retaining the existing Low Density Residential (LDR) land use designation for the existing residence to remain.

Planned Development Description

The project is a planned development.

Proposed uses within the project are as follows:

1) 444 single family detached residential units with lot sizes ranging from 5,775 sf to 3.32 ac

Product Type	Qty	Land Use
Village Small Lot	149	HDR
Village Large Lot	173	HDR
Hillside	54	HDR
Hillside Custom	58	HDR
Estate Residential	5	MDR
Estate Residential Large Lot	5	MDR
	444	

2) 160 age-restricted single family detached residential units with lot sizes ranging from 4,725 sf to 12,685 sf

Product Type	Qty	Land Use
Age-Restricted Small Lot	80	HDR
Age-Restricted Large Lot	80	HDR
	160	

3) One existing Low Density Residential (LDR) unit to remain.
4) One Clubhouse lot (Lot C)
5) One EID lot for a proposed pump station
6) Public and private roadways
7) 84.1+/- acres or 30% total open space, including native open space, parks and landscape lots.
    a. Includes 11.14 acres of Parks including:
        - One Village Park (Lot A)
        - One Neighborhood Park (Lot B)

Lighting

Outdoor lighting in conformance with Section 17.14.170 of the County Ordinance Code is anticipated to be provided at major intersections, mid-block pedestrian crossings, along sag vertical curves where needed to establish adequate sight distance and as appropriate for public safety. Limited safety and security lighting and indirect shielded lighting will also be provided at park sites, gates and clubhouse including but not limited to parking areas, play areas, and walkways where appropriate. The project does not propose to use lighted ball fields or other light intensive uses at the proposed park sites.

Existing Field Conditions

The project site is situated in the foothills of the Sierra Nevada on rolling to relatively flat terrain at an average elevation of about 1,050 feet. The project site, which is primarily used as pasturage, is undeveloped and contains no habitable structures. Newer residential developments are located to the west while older ranchettes occupy lands to the north and east. The area in general is in the process of converting from rural to residential land use. The site was very lightly grazed by cattle and horses at the time of field surveys.

The majority of the site generally drains to the north/northeast into Green Spring Creek. Green Spring Creek, which traverses the northern portion of the study area from east to west, is tributary to Folsom Reservoir by way of New York Creek. The southwestern corner of the parcel appears to drain to the south towards Allegheny Creek which is located outside of the study area boundary. Allegheny Creek is also tributary to Folsom Reservoir by way of Green Spring Creek and New York Creek, respectively.

Based on records received from the State Water Resources Control Board, the ponds are believed to have been constructed around 1966. Both ponds are manmade and are separated by an earthen embankment with a small bridge/spillway. This embankment currently provides property access and is to be reconstructed in a manner that will continue to provide adequate property access, as appropriate, in conformance with applicable regulations.

Green Springs Creek originates approximately 1/3 of a mile upstream from the project site and generally flows in a northwesterly direction. The catchment area contributing to the lower of the two ponds is approximately 1800 acres. The storage amount is proposed to remain the same with current water rights allowing for storage of approximately 27 AC-FT combined between the two ponds. The normal pond water surface elevation (spillway crest elevation) for the lower pond is to remain at approximately elevation 972 feet (NAD83 datum). Though currently controlled by a vegetated / rock lined bypass, proposed improvements will consist of a spillway with appropriate erosion control and energy dissipation.

The upper pond water surface elevation is currently controlled by flash boards placed along the face of the existing bridge structure during summer months. At approximate top of flashboard elevations, the normal upper pond water surface elevation is set to approximately elevation 982 feet (NAD83 datum) during summer months. This elevation will become the new effective year-round permanent crest elevation for the upper pond as part of the proposed project

FIELD SURVEY METHODS

Field surveys were conducted in June of 2015 according to U.S. Fish and Wildlife Service guidelines (April 4, 1997 Memorandum 1-1-97-TA-1093 Dissemination of Interim Guidance on Site Assessment and Field Surveys for California Red-Legged Frogs; August 2005 Revised Guidance on Site Assessment and Field Surveys for California Red-Legged Frogs). This Guidance recommends a total of up to eight (8) surveys to determine the presence of California Red-legged Frogs at or near a project site. Two (2) day surveys and four (4) night surveys are recommended during the breeding season; one (1) day and one (1) night survey is recommended during the non-breeding season. Each survey must take place at least seven (7) days apart. At least one survey must be conducted prior to August 15th. The survey period must be over a minimum period of 6 weeks (i.e., the time between the first and last survey must be at least 6 weeks). Throughout the species' range, the non-breeding season is defined as between July 1 and September 30.

This guidance requires that in assessing the presence of California red-legged frogs (CRF) at a given locale, the following steps and conditions are completed or met:

1. Upon arrival at the survey site, surveyors should listen for a few minutes for frogs calling, prior to disturbing the survey site by walking or looking for eye shine using bright lights. If CRF calls are identified, the surveyor should note this information on the survey data sheet and note the approximate location of the call. Once the survey begins, the surveyor should pay special attention to the area where the call originated in an attempt to visually identify the frog.

2. The most common method of surveying for CRF is the visual-encounter survey. This survey is conducted either during daylight hours or at night by walking entirely around the pond or marsh or along the entire length of a creek or stream while repeatedly scanning for frogs. This procedure allows one to scan each section of shore from at least two different angles. Surveyors should begin by first working along the entire shoreline, then by entering the water (if necessary and no egg masses would be crushed or disturbed), and visually scanning all shoreline areas and all aquatic habitats identified in the site assessment. Generally, surveyors shall focus on all open water to at least 2 meters (6.5 feet) up the bank. When wading, surveyors must take maximum care to avoid disturbing sediments, vegetation, or larvae. When walking on the bank, surveyors

shall take care to not crush rootballs, overhanging banks, and stream-side vegetation that might provide shelter for frogs. Surveys must cover the entire area, otherwise the remaining survey area must be surveyed the next day/night that weather conditions allow (both visits would constitute one day/night survey).

3. Day surveys may be conducted on the same day as a night survey. The main purpose of day surveys during the breeding season is to look for larvae, metamorphs, and egg masses; the main purpose of day surveys during the non-breeding season is to look for metamorphosing sub-adults, and non-breeding adults. Daytime surveys shall be conducted between one hour after sunrise and one hour before sunset.

4. The main purpose of night surveys is to identify and locate adult and metamorphosed frogs. Conditions and requirements for conducting night surveys are as follows:

    A. Night surveys must commence no earlier than one (1) hour after sunset.
    B. Due to diminished visibility, surveys should not be conducted during heavy rains, fog, or other conditions that impair the surveyor's ability to accurately locate and identify frogs.
    C. Nighttime surveys shall be conducted with a Service-approved light such as a Wheat Lamp, Nite Light, or sealed-beam light that produces less than 100,000 candle watt. Lights that the Service does not accept for surveys are lights that are either too dim or too bright. For example, Mag-Light-type lights and other types of flashlights that rely on 2 or 4 AA's/AAA's, 2 C's or 2 D batteries. Lights with 100,000 candle watt or greater are too bright and also would not meet Service requirements.
    D. The Service approved light must be held at the surveyor's eye level so that the frog's eye shine is visible to the surveyor.
    E. The use of binoculars is a must in order to effectively see the eye shine of the frogs. Surveys conducted without the use of binoculars may call in to question the validity of the survey.

5. Weather and visibility conditions must be consistent throughout the duration of the survey; if weather conditions become unsuitable, the survey must be completed at another time when conditions are better suited to positively locating and identifying frogs. Suitable conditions are as follows:

    A. Air temperature at the survey site must be at least 10 degrees Celsius (50 degrees Fahrenheit). Frogs are less likely to be active when temperatures are below 10 degrees Celsius (50 degrees Fahrenheit).
    B. Wind speed must not exceed 8 kilometers/hour (5 miles/hour) at the survey site. High wind speeds affect temperatures and the surveyor's ability to hear frogs calling.

C. Surveys must be conducted under clear to partly cloudy skies (high clouds are okay) but not under dense fog or during heavy rain, as stated above. Surveys may be conducted during light rains.

6. In an effort to minimize the spread of terrestrial and aquatic pathogens, all aquatic survey equipment including chest waders, wet suits, float tubes, kayaks, shall be decontaminated before entering potential CRF habitat using the guidelines in Appendix B. Careful attention shall be taken to remove all dirt from boots, chest waders, wetsuits, float tubes, kayaks, and other equipment before placing equipment into the water.

7. If the larval life stage is the only life stage detected and the larvae are not identified to species (or similarly, if sub-adult or adult frogs are observed but not identified to species), the surveyor must either return to the habitat to identify the frog in another life stage or obtain the appropriate permit (e.g., section 10(a)(1)(A) permit) authorization allowing the surveyor to handle CRF and larvae. In order for the Service to consider a survey to be complete, all frogs encountered must be accurately identified.

RESULTS

In total, three (3) days and five (5) night surveys were completed between May 2 and July 13, 2016. Unlike the unsuitable drought conditions experienced during 2015, Green Springs Creek flowed continuously during the 2016 breeding season, enabling the completion of all surveys according to protocol. Sierran treefrog (*Pseudacris sierra*), American Bull Frog (*Lithobates catesbeianus*) and Western Toad (*Anaxyrus boreas*) were observed at all sites, but the upper (eastern) pond possessed a higher concentration of amphibian observations than the lower (western) pond. Only American bullfrogs were detected in the lower pond.

Green Springs Creek remained dry during the non-breeding season surveys (post-June 30). As with breeding-season surveys, there were more observations of Sierran treefrogs, American Bullfrogs, and Western toads at the upper pond compared to the lower pond. Large brambles of Himalayan Blackberry (*Rubus discolor*) made difficult to access both sides of the pond as well as large patches of hardstem bulrush (*Schoenoplectus acutus*) at both upper and lower ponds. During the non-breeding survey the bulrush on the lower site were grazed by cattle during the non-breeding survey period, potentially limiting habitat but increasing visibility during surveys.

As in previous years, no California red-legged frogs were detected at any time during the breeding- and non-breeding seasons. American bullfrogs were observed at all sites. Centrarchid fishes (*Lepomis* spp.) were only observed in the larger, lower pond. There were small minnow (unknown spp) observed in the smaller, upper pond. All of these

species may compete with and prey upon California red-legged frogs. Other potential predators included great blue herons (*Ardea herodias*), green-backed heron (*Butorides virescens*), pied-billed grebe (*Podilymbus podiceps*), North American raccoon (*Procyon lotor*), Valley garter snake (*Thamnophis sirtalis fitchi*) and Northern Pacific pond turtle (*Actinemys marmorata*). Larval Sierran treefrogs and Western toads were also observed, but neither are known to adversely affect California red-legged frogs
Full survey results are provided in Appendix B.

SUMMARY

Permanent, suitable red-legged frog habitat is present on the project site within Green Springs Creek and the associated impoundments. Although drainage features on-site are characterized as ephemeral or intermittent, they also provide potential habitat for dispersing California red-legged frogs when they are flowing or when they possess pooled water following winter and spring rains. Although no California red-legged frogs were observed during the field surveys, there is ample supporting habitat on the project site.

The regional presence of California red-legged frogs remains unverified. A juvenile (unverified) California red-legged frog was reported in 2005 within 2.8 miles (4.5 km) of the Proposed Project from a drainage at the end of Fitch Way, on the east side of Folsom Lake, southwest of Iron Mountain and north of Highway 50 (CNDDB 2016), but no others are reported from the immediate vicinity. California red-legged frogs have been verified in recent years in El Dorado County in Weber Creek, near Placerville (early 1990s) (Miriam Green Associates 1996, CNDDB 2016), in Northeastern El Dorado County near Georgetown, and in Placer County near Michigan Bluff, but no verified populations are reported within 17.7 miles (28.5 km) of the project site. With the exception of the unverified juvenile frog reported near Folsom Lake, all California red-legged frogs recorded in this region of the Sierra Nevada occur above 2,000 feet, well above the approximately 1,050-foot mean elevation of the project site.

Predatory species such as American bullfrogs that may compete with or prey upon California red-legged frogs are present on the project site, further reducing the likelihood that California red-legged frogs persist in the area (Doubledee et al. 2003, Lawler et al. 1999, USFWS 2002). However, winter and spring flooding as well as periodic summer dry down within aquatic features may limit the density of these predators without limiting California red-legged frogs (Doubledee et al. 2003), and differing spatial distribution between red-legged frogs and potential predators may allow red-legged frogs to persist if present (Cook and Currylow 2014).

Though negative survey results do not provide definitive evidence of species absence, the lack of observations across multiple years of protocol-level surveys combined with the factors stated above suggests that California red-legged frogs probably do not occur here.

REFERENCES

California Natural Diversity Database (CNDDB). Commercial Version, August 2016. Geographic Information Systems (GIS) data and computer printout of sensitive species records in California. California Department of Fish and Game, Natural Heritage Division, Sacramento, CA.

Cook, D.G. and A.F. Currylow. 2014. Seasonal Spatial Patterns of Two Sympatric Frogs: California Red-Legged Frog and American Bullfrog. Western Wildlife 1:1-7.

Doubledee, R. A., E. B. Muller, and R. M. Nisbet. 2003. Bullfrogs, disturbance regimes, and the persistence of California red-legged frogs. Journal of Wildlife Management 67, 424–438.

Lawler, S.P., D. Dritz, T. Strange, and M. Holyoak. 1999. Effects of introduced mosquitofish and bullfrogs on the threatened California red-legged frog. Conservation Biology 13(3):613:622.

Rathbun, G.B., M.R. Jennings, T.G. Murphey, and N.R. Siepel. 1993. Status and ecology of sensitive aquatic vertebrates in lower San Simeon and Pico Creeks, San Luis Obispo County, California. U.S. Fish and Wildlife Service, National Ecology Research Center, San Simeon, CA. Prepared for the California Department of Parks and Recreation. 103 pp.

Appendix A: Photographs

Green Spring creek, breeding season

Green Springs Creek, non-breeding season

Upper Louie Pond, breeding season

Upper Louie Pond, non-breeding season

Lower Louie Pond (E end)

Lower Louie Pond (W end)

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 05/02/2018 (mm/dd/yyyy) Survey Biologist: Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: 670105 / 4286498
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Dixon Ranch / Louie pond
Brief description of proposed action:

Type of Survey (circle one): DAY (NIGHT) (BREEDING) NON-BREEDING

Survey number (circle one): (1) 2 3 4 5 6 7 8

Begin Time: 2108 End Time: 2211

Cloud cover: 0% Precipitation: 0%

Air Temperature: 17.3 Water Temperature: 21.1

Wind Speed: 0-1 mph Visibility Conditions: Excellent

Moon phase: Waning Crescent Humidity: 43%

Description of weather conditions: cool, calm, clear sky

Brand name and model of light used to conduct surveys: Nite lite

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon, Action 8x40

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

	Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
seasonal creek	Sierran Chorus frog	>10	H	Adults	lg	100%
	Bullfrog	1	H	Adults	lg	100%
ponds	Sierran Chorus frog	>10	H	Adults	lg	100 %
	Bull frogs	3	0	Adults	med/lg	100%
	Sierran Chorus frog	7	0	Adult	lg	100%
	Bull frog		H	Adult	lg	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Bull frog throughout property Mosquito fish and Contrachid in the shallows & coolers of the ponds.

Other notes, observations, comments, *etc.* I observed no Tadpoles in the ponds. I only observed Tadpoles in the seasonal creek. The Chorus & Bull frogs were calling in the ponds, but no eggs observed, maybe next visit I will see some Tadpoles.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Survey: 05/02/2016 (mm/dd/yyyy) Survey Biologist: Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: 670105 / 4286498
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Dixon Ranch / Louie pond
Brief description of proposed action:

Type of Survey (circle one): (DAY) NIGHT (BREEDING) NON-BREEDING

Survey number (circle one): (1) 2 3 4 5 6 7 8

Begin Time: 1743 End Time: 1856

Cloud cover: 10% Precipitation: 0%

Air Temperature: 25.5 Water Temperature: 24.1

Wind Speed: 0-1 mph Visibility Conditions: Excellent

Moon phase: Waning Crescent Humidity: 27%

Description of weather conditions: High thin clouds

Brand name and model of light used to conduct surveys: N/A

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon, Action 8x40 B.2

Louie pond Day 1
5/2/14

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bullfrog	3	H	Adult	Lg	100%
Sierran Chorusfrog	>200	O	larvae	sm-Med	99%
Western Toad	>50	O	larvae	sm	99%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: A pair of Pied-Billed Grebes, Bullfrog, Centrarchid (green sunfish), 9 mosquito fish, 2 Western Pond turtle, 1 in the seasonal creek, the 2nd was in the upper pond

Other notes, observations, comments, *etc.* All the larvae observed was in the seasonal creek were the water was slow with pools.
photo #11, looking @ pools in the seasonal creek.
photo #12 looking downstream, from end of property.
photo #13 looking @ upper pond
photo #14 " " lower pond
Tules are the dominant Vegetation @ both ponds
upper ~75% cover, lower ~90% cover

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Survey: 05/18/2016 (mm/dd/yyyy) **Survey Biologist:** Johnson (Last name) Adam (first name)
Survey Biologist: _____ (Last name) _____ (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Dixon Ranch, Lovie Ponds
Brief description of proposed action:

Type of Survey (circle one) (DAY) NIGHT (BREEDING) NON-BREEDING

Survey number (circle one): 1 (2) 3 4 5 6 7 8

Begin Time: 1727 **End Time:** 1850

Cloud cover: 0% **Precipitation:** 0%

Air Temperature: 33.2 **Water Temperature:** Upper pond 27.7, Lower pond 26.8, Seasonal Creek 29.4

Wind Speed: 2-5mph **Visibility Conditions:** Excellent

Moon phase: Waxing Gibbous **Humidity:** 27%

Description of weather conditions: Calm, Sunny with wind from the South West

Brand name and model of light used to conduct surveys: N/A

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon 8x40 8.2°

Upper pond
2nd Day 5/10

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bullfrog	4	H	Adult	med/lg	100%
Western Toad	1	O	Sub Adult	med	100%
Chorus frog	28	O	Sub Adult	med/lg	100%
Chorus frog	+100	O	larvae	sm - lg	100%
Chorus frog	+30	O	metamorphosis	lg	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Bullfrog, Western Pond turtle, Great Blue Heron, Pied-Billed Grebe, Belted Kingfisher, Sunfish sp. and Garter snake sp.

Other notes, observations, comments, *etc.* upper pond and seasonal creek has the highest numbers of chorus frog in all life stages as well as western toad. Both pond have Bullfrogs and fish, but the lower pond has larger predatory fish

The water in seasonal creek has dropped about 2 inches. Both ponds water level is stable.

Photo #28 showing H_2O levels of seasonal creek.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 05/18/2016 (mm/dd/yyyy) Survey Biologist: Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Dixon Ranch, Louie Pond
Brief description of proposed action:

Type of Survey (circle one): DAY (NIGHT) (BREEDING) NON-BREEDING

Survey number (circle one): 1 (2) 3 4 5 6 7 8

Begin Time: 2124 End Time: 2240

Cloud cover: 10% Precipitation: 0%

Air Temperature: 16.8 Water Temperature: upper pond 23.9 lower pond 23 Seaman Creek 21.1

Wind Speed: 2mph Visibility Conditions: Excellent

Moon phase: Waxing Gibbous Humidity: 40%

Description of weather conditions: Clear, calm, wind from southwest

Brand name and model of light used to conduct surveys: Nitelite

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon 8x40

Lovie Ponds
Nile 5/19

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bull frog	6	H	Adult	Lg	100%
Chorus frog	14	H	Adult	Lg	100%
Chorus frog	8	O	Sub Adult	med-lg	100%
Chorus frog	4200	O	Larvae	sm-lg	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Bullfrog and sunfish in lower pond.

Other notes, observations, comments, *etc.* Bull frogs are located in the upper and lower ponds, but the chorus frogs are located at the upper pond and seasonal creek only. No Tadpoles observed in the lower pond. Minnows observed in the upper pond, where as the lower pond has sunfish & mosquito fish

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 06/07/2016 (mm/dd/yyyy) Survey Biologist: Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Louie Ponds
Brief description of proposed action:

Type of Survey (circle one): DAY (NIGHT) BREEDING (NON-BREEDING)

Survey number (circle one): 1 2 (3) 4 5 6 7 8

Begin Time: 2131 End Time: 2248

Cloud cover: 0% Precipitation: 0%

Air Temperature: 19.0 °C Water Temperature: upper 24.6 Lower 25.5

Wind Speed: 0-2mph Visibility Conditions: Excellent

Moon phase: Waxing Crescent Humidity: 43%

Description of weather conditions: Clear sky, calm with a wind from the SSW

Brand name and model of light used to conduct surveys: Nite lite

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon 8x40

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bullfrog	4	H	Adult	med-lg	100%
Bullfrog	6	O	Adult	sm-lg	100%
Chorus frog	3	H	Adult	lg	100%
Chorus frog	>100	O	sub Adult	sm-med	100%
Chorus frog	19	O	Larvae	med-lg	100%
Western Toad	23	O	subAdult	sm-med	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Bull frog, Centrarchid

Other notes, observations, comments, *etc.* Water is down from last ~~vi~~ visit. The creek has no flow, only small pools remain Chorus frogs (Larvae & subAdult) were observed, with 2 sub Adult Bull frog. The water at the upper pond has dropped no flow between upper & lower ponds. Around the upper site subAdult Chorus ~~frog~~ in number hard to count so many. I only heard 1 Adult Bull frog at ~~the~~ the lower site. Fishing bait cans are at the lower site, may be Bass in that pond. All other frog observations were at the upper pond.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 6/29/2016 (mm/dd/yyyy) **Survey Biologist:** Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Lovie Ponds
Brief description of proposed action:

Type of Survey (circle one): **DAY** (NIGHT) **BREEDING NON-BREEDING**

Survey number (circle one): 1 2 3 (4) 5 6 7 8

Begin Time: 2141 **End Time:** 2236

Cloud cover: 0% **Precipitation:** 0%

Air Temperature: 22.2 **Water Temperature:** _____

Wind Speed: 0-1 mph **Visibility Conditions:** Excellent

Moon phase: Waning Crescent **Humidity:** 35%

Description of weather conditions: clear & calm

Brand name and model of light used to conduct surveys: Nite Lite

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon 8X40

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bull frog	~~#3~~	H	Adult	Lg	100%
Western Toad	8	O	subAdult	med-lg	100%
Sierran Chorus frog	29	O	subAdult	med-lg	100%
Bull frog	11	O	Adult	med-lg	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Centrarchid in the lower pond.

Other notes, observations, comments, *etc.* Seasonal creek is dry, no pools remain. Water is down ~6" at both pond. The tules & cattails along the shore have been grazed. It makes it easy to see more of the pond. All frogs observed and Heard were located at the upper pond. I did observed a WPT (western pond turtle) at the lower pond.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Survey: 07/13/2016 (mm/dd/yyyy) **Survey Biologist:** Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Levee Ponds
Brief description of proposed action:

Type of Survey (circle one): (DAY) NIGHT **BREEDING** (NON-BREEDING)

Survey number (circle one): (1) 2 3 4 5 6 7 8

Begin Time: 1835 **End Time:** 1942

Cloud cover: 0% **Precipitation:** 0%

Air Temperature: 29.9°C **Water Temperature:** upper 29.9°C lower 28.4°C

Wind Speed: 1-3mph **Visibility Conditions:** Excellent

Moon phase: Waxing Gibbous **Humidity:** 26%

Description of weather conditions: Sunny, wind from west

Brand name and model of light used to conduct surveys: N/A

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon 8x40

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Sierran Chorus frog	57	O	Adult	sm-med	100%
Weston Toad	9	O	Adult	Sm	100%
Bull frog	~~1~~	H	Adult	lg	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Bull frog, Gartes Snake (T. sirtalis), Centrarchid, Western pond turtle, Great Egert and Greenback heron.

Other notes, observations, comments, *etc.* Seasonal creek dry, and no flow between ponds, Most of the frog were obsered in or around the upper pond. Did observed for the first time Chorus frogs around the lower pond. In the lower pond, 5 Western Pond turtles observed. Top water feeding by Centrarchid fish was observed as well.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Survey: 07/13/2016 (mm/dd/yyyy) Survey Biologist: Johnson (Last name) Adam (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Louie Ponds
Brief description of proposed action:

Type of Survey (circle one): DAY (NIGHT) BREEDING (NON-BREEDING)

Survey number (circle one): (1) 2 3 4 5 6 7 8

Begin Time: 2141 End Time: 2252

Cloud cover: 0% Precipitation: 0%

upper = 24.4°C

Air Temperature: 26.3 Water Temperature: lower = 25.9°C

Wind Speed: 0-1 mph Visibility Conditions: Excellent

Moon phase: Waxing Gibbous Humidity: 25%

Description of weather conditions: Clear, calm

Brand name and model of light used to conduct surveys: Night Ide

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Nikon 8 x 40

Appendix B: Field Survey Forms

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Bull frog	4	H	Adult	Lg	100%
Bull frog	12	O	Adult	sm-lg	100%
Chorus frog	34	O	Adult	sm-md	100%
Western Toad	1	O	Adult	sm	100%
Bull frog	9	O	Larvae	Lg	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: Bullfrog, centrarchid (Blue-gill)

Other notes, observations, comments, *etc.* The lower pond is where I observed the Bull frog tadpoles, and 2 of 12 Bull frog Adult.
By the end of summer the upper pond maybe dry where as the lower pond is deeper and will hold it's water longer.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species locations

Appendix C: Surveyor Qualifications

ADAM L. JOHNSON, STAFF BIOLOGIST

Eric C. Hansen, Consulting Environmental Biologist

2001-Present

Education

B.S. in Wildlife Management, Humboldt State University, Arcata, CA 2003
Concentrations: Wildlife Management with minor in Environmental Resources

Licenses/Registration

Included on List of Authorized Individuals on Eric C. Hansen's

US FISH AND WILDLIFE SERVICE RECOVERY PERMIT: ESA10(a)(1)(A) - TE-018177-6

DEPARTMENT OF FISH AND GAME SCIENTIFIC COLLECTING PERMIT - 006309

Professional Summary

Adam Johnson is a senior staff biologist for Eric C. Hansen, Consulting Environmental Biologist. In this capacity, Mr. Johnson has conducted biological monitoring and field research, including visual encounter, trapping, and radio telemetry surveys, for the state- and federally-listed (Threatened) giant garter snake, and has conducted sampling for an abundance of wildlife species throughout California's Central Valley. Mr. Johnson has also conducted biological compliance monitoring on a multitude of projects, including pre-construction and on-site monitoring and administering environmental awareness training to construction personnel.

Professional Training

California Tiger Salamander Workshop--Special Emphasis on Sampling/Surveying Upland Habitats, Carmel Valley, CA, June, 2010 - Sponsored by the Elkhorn Slough Coastal Training Program, administered by Dr. Pete Trenham

California Red-Legged Frog Workshop, April 2010 - Sponsored by the Elkhorn Slough Coastal Training Program, administered by Galen Rathbun and Norman Scott

California Tiger Salamander Workshop, Watsonville, CA, March, 2010 - Sponsored by the Elkhorn Slough Coastal Training Program, Administered by Dr. Pete Trenham

Rare Pond Species Survey Techniques Workshop, Rohnert Park, CA, March, 2008 - Sponsored by the Leguna de Santa Rosa Foundation and The Wildlife Project, administered by Dr. Jeff Alvarez and Dr. David Cook

California Tiger Salamander Workshop--Special Emphasis on Sampling/Surveying Upland Habitats, Carmel Valley, CA, June, 2010 - Sponsored by the Elkhorn Slough Coastal Training Program, administered by Dr. Pete Trenham

Sample Experience:

Kinder Morgan Energy Partners – Pipeline Anomaly Inspection and Repair Projects, Contra Costa, Sacramento, San Joaquin, and Yolo Counties, CA. Conducted biological monitoring on multiple underground pipeline inspection/repair projects throughout the Central Valley of California. Conducted pre-construction surveys and on-site monitoring for giant garter snake, Swainson's Hawk, Burrowing Owl, and western pond turtle. 2006 - Present.

Biological Effectiveness Monitoring for the Natomas Basin Habitat Conservation Plan Area. Served as staff biologist for giant garter snake population surveys (trapping and visual encounter) conducted in the Natomas Basin. Conducted field surveys independently and assisted in the supervision/coordination of seasonal field research technicians. 2004 - 2010.

Evaluation of Potential California Tiger Salamander (*Ambystoma californiense*) Habitat on the Dixon Ranch Subdivision Project El Dorado County, California

Prepared by:

Eric C. Hansen
Consulting Environmental Biologist
4200 N. Freeway Boulevard, Suite 4
Sacramento, CA 95834

For:

Dixon Ranch Partners, LLC
949 Tuscan Lane
Sacramento, California 95864

September 9, 2013

Evaluation of Potential California Tiger Salamander (*Ambystoma californiense*) Habitat on the Dixon Ranch Subdivision Project, El Dorado County, California

INTRODUCTION

This report provides the results of California tiger salamander (*Ambystoma californiense*) habitat suitability assessments on the Dixon Ranch Subdivision project site, located south of Green Valley Road in El Dorado County, California. A site visit was conducted for this purpose on 22 April 2013. The Louie Ponds consist of two contiguous impoundments situated in the Green Springs Creek corridor totaling approximately 3.8 acres in combined surface area. In order to provide an adequate regional perspective, an approximately 301-acre study area established during prior wetland delineations and rare plant species assessments (Gibson & Skordal 2011, 2012) were used to complete the assessment. The study area is located in Section 24, township 10 North, Range 8 East; Section 19, Township 10 North, Range 9 East, MDB&M, El Dorado County, California. The study area ranges from approximately 950-feet to 1240 feet in elevation, can be found at UTM 670,016 M E; 4,285,698 M N (Zone 10 North), and is portrayed on the Clarksville, California 7.5-Minute Series Topographic Quadrangle. Locator, vicinity, and detail maps are included in Figure 1 and Figure 2.

To access the site from Sacramento, drive east on Highway 50 into El Dorado County and exit to the north onto El Dorado Hills Boulevard, travel north on El Dorado Hills Boulevard, and then turn right onto Green Valley Road. Continue east on Green Valley Road until reaching West Green Springs Drive. The study area is located south of the West Green Springs Drive-Green Valley Road intersection. Existing or approved adjacent subdivisions include Green Springs Ranch to the east and southeast, Serrano to the southwest, and Highland View to the west.

The area surrounding the project site contains habitats suitable for California tiger salamanders, possessing both the aquatic and upland terrestrial habitats required by the species. However, the project site lies approximately 19 miles north of the northernmost records situated along the Sierra Nevada foothills and at higher elevation than the preponderance of known records along this portion of the Sierra Nevada foothills. Despite the presence of suitable habitat, the presence of predatory species and distance from known populations within this portion of the species' range suggests that California tiger salamanders are unlikely to occur on the project site.

The methodologies used to complete this assessment are presented below, and maps of regional species distribution are included as figures. Photographs of pertinent features are included as Appendix A.

FIGURE 1. VICINITY MAP

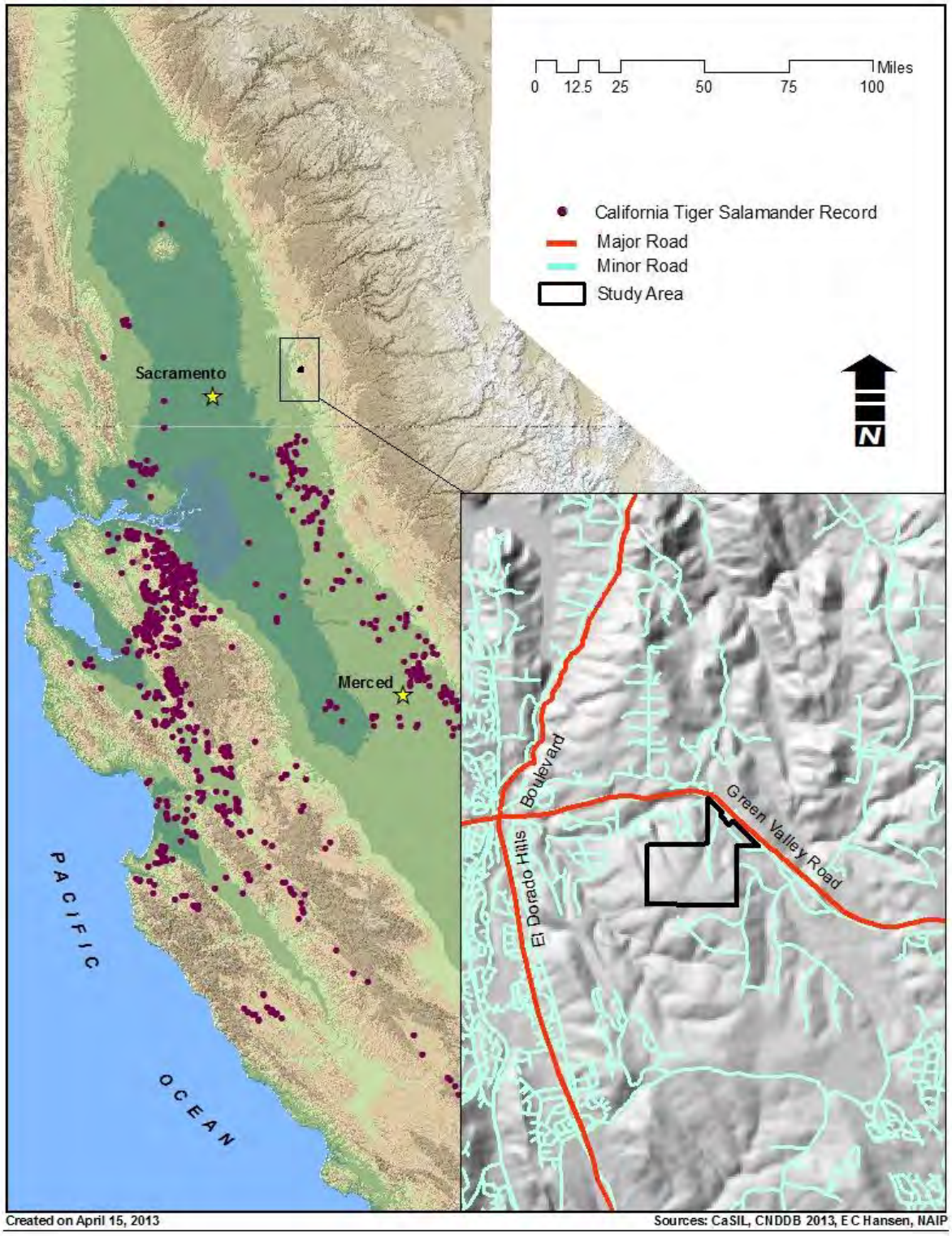
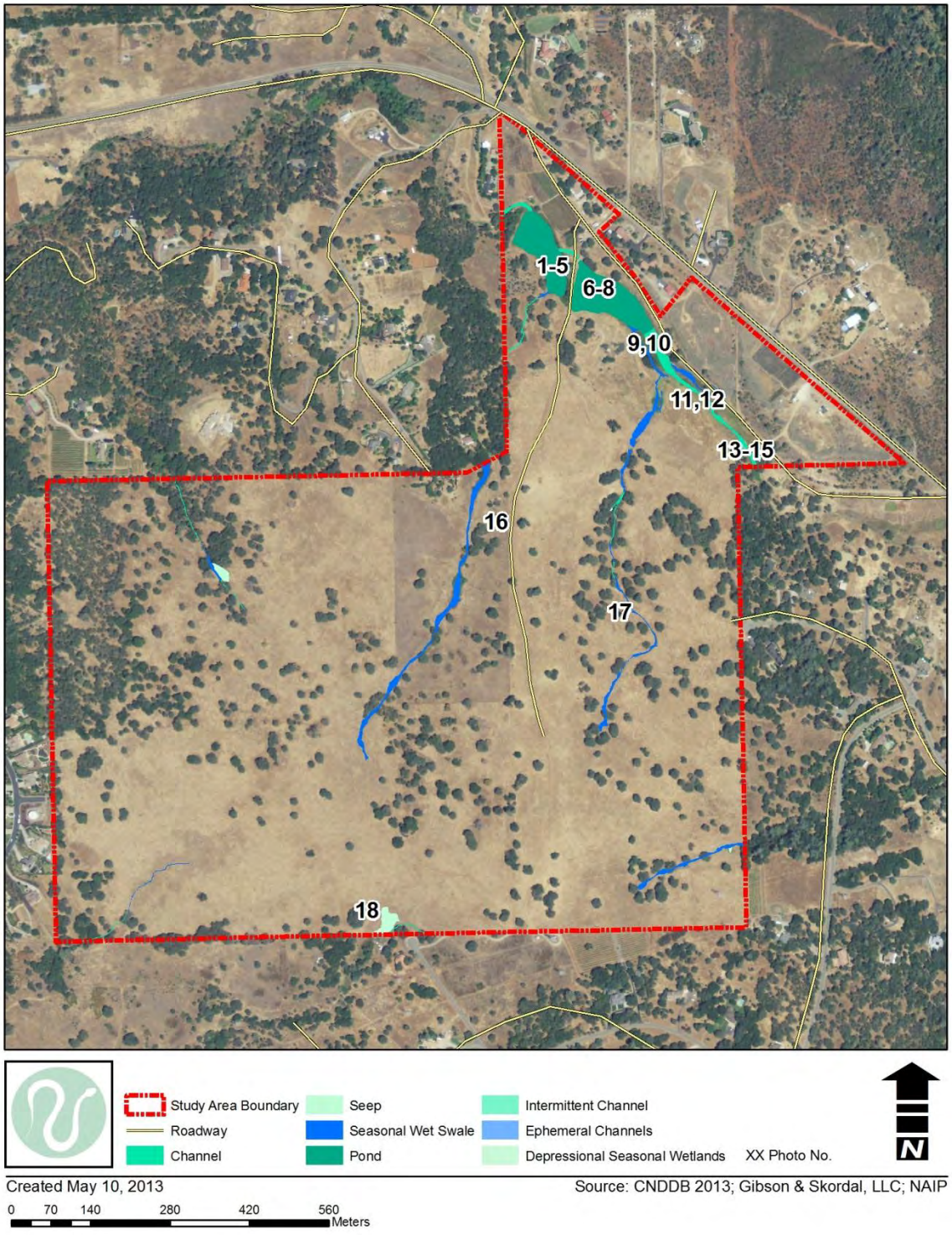


FIGURE 2. STUDY AREA DETAIL AND KEY TO PHOTOGRAPHS



HABITAT ASSESSMENT

Legal Status

The Santa Barbara County population of the California tiger salamander (*Ambystoma californiense*) was federally listed as endangered on September 21, 2000 (65 **FR** 57242). The Sonoma County Distinct Population Segment (DPS) of the California tiger salamander was listed as endangered on July 22, 2002 (67 **FR** 47727). The Central California DPS of the California tiger salamander was proposed for listing as threatened on May 23, 2003 (68 **FR** 28648). The Santa Barbara and Sonoma County DPSs were proposed for reclassification from endangered to threatened, on May 23, 2003 (68 **FR** 28648). The California Department of Fish and Wildlife (Department) considers the California tiger salamander throughout its entire range to be a species of special concern (Special Animals List July 2003 http://www.dfg.ca.gov/whdab/html/lists.html).

Life History

The California tiger salamander is restricted to grasslands, oak savannah, and coastal scrub communities of lowlands and foothill regions where aquatic sites are available for breeding. California tiger salamanders are typically found at elevations below 460 m (1,509 feet) (USFWS 2004a), although the known elevational range extends up to 1,053 m (3,458 feet) (Jennings and Hayes 1994). The species utilizes natural ephemeral pools or artificial ponds that mimic them (e.g., stock ponds that are allowed to dry).

Larvae require a minimum of approximately 10 weeks to complete metamorphic transformation (P. Anderson 1968, Feaver 1971), significantly longer than other amphibians such as the Sierra tree frog (*Pseudachris sierra*) and western spadefoot (*Spea hammondii*). The duration of the larval period restricts California tiger salamander breeding to large vernal pools, vernal playas, and large sag ponds. Compared to the western toad (*Bufo boreas*) or western spadefoot, California tiger salamanders are poor burrowers and require subterranean refuges constructed by ground squirrels and other burrowing mammals (Jennings and Hayes 1994). Salamanders spend the dry season, which comprises most of a year, within these burrows (USFWS 2004b). Although California tiger salamanders are often considered to be in a state of dormancy, called aestivation, during the period in which in they occupy these burrows, evidence suggests that salamanders may remain active while within their burrows (S. Sweet in litt. in USFWS 2004b).

Proposed Action

Project Description

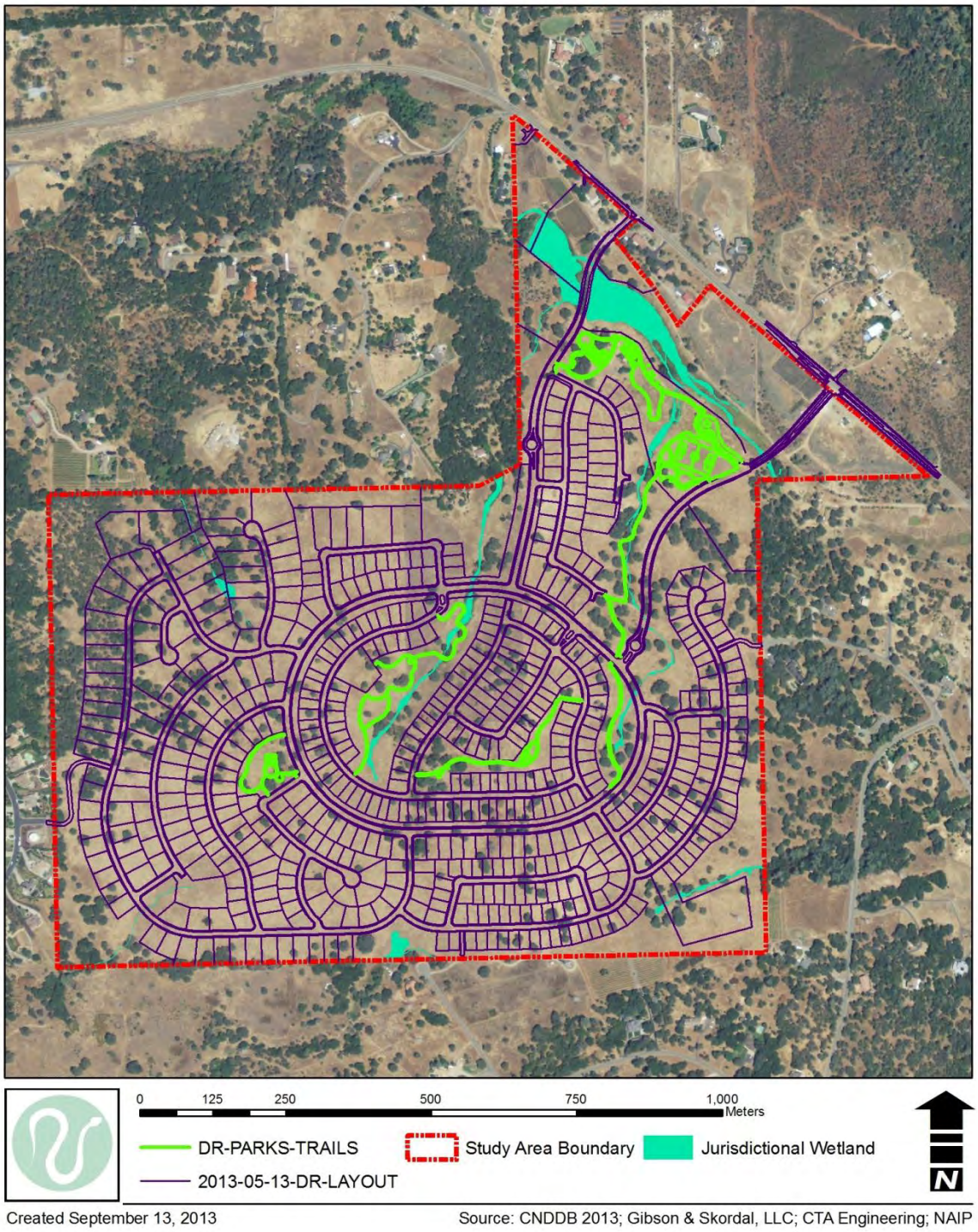
The Dixon Ranch Project proposes to subdivide 280+/- acres into 444 single family detached residential units, 160 age-restricted single family detached units (age restricted to older adults), and includes retention of one existing single family residence for a total of 604 new units and one existing unit. The project includes preservation or creation of 84.1+/- acres (30%) of open space including parks, trails, landscaped lots, and native open spaces. The project includes on-site and off-site infrastructure to serve the development. Construction of a clubhouse for the age-restricted units is also proposed. Build-out will likely occur over many years, but ultimately will be dictated by market demands. The proposed development plan is shown in Figure 3.

Required project approvals include: a General Plan Amendment (File No. A11-0006); Zone Change (File No. Z11-0008); Planned Development (File No. PD11-0006); Tentative Map (File No. TM11-1505); annexation into the El Dorado Irrigation District; annexation into the El Dorado Hills Community Service District; and annexation into the El Dorado Hills County Water District (El Dorado Hills Fire Department).

General Plan Amendment Description

The project is currently located entirely within the General Plan Community Region (urban limit line) of El Dorado Hills and is designated as Low Density Residential (LDR) land use, with the exception of 1.5+/- acres at the southeast corner of the property that is designated as Open Space (OS) and associated with the existing SMUD power transmission corridor. LDR allows for a maximum density of 1 dwelling unit per 5 acres. The proposed project is applying for a change in the land use designations on the site to High Density Residential (HDR) allowing for a density range of 1 to 5 units per acre; Medium Density Residential (MDR) allowing for a maximum of 1 dwelling unit per acre; and Open Space (OS). The proposed project is retaining the existing Low Density Residential (LDR) land use designation for the existing residence to remain.

FIGURE 3. PROPOSED DEVELOPMENT PLAN



Created September 13, 2013

Source: CNDDB 2013; Gibson & Skordal, LLC; CTA Engineering; NAIP

Planned Development Description

The project is a planned development.

Proposed uses within the project are as follows:

1) 444 single family detached residential units with lot sizes ranging from 5,775 sf to 3.32 ac

Product Type	Qty	Land Use
Village Small Lot	149	HDR
Village Large Lot	173	HDR
Hillside	54	HDR
Hillside Custom	58	HDR
Estate Residential	5	MDR
Estate Residential Large Lot	5	MDR
	444	

2) 160 age-restricted single family detached residential units with lot sizes ranging from 4,725 sf to 12,685 sf

Product Type	Qty	Land Use
Age-Restricted Small Lot	80	HDR
Age-Restricted Large Lot	80	HDR
	160	

3) One existing Low Density Residential (LDR) unit to remain.
4) One Clubhouse lot (Lot C)
5) One EID lot for a proposed pump station
6) Public and private roadways
7) 84.1+/- acres or 30% total open space, including native open space, parks and landscape lots.
    a. Includes 11.14 acres of Parks including:
        - One Village Park (Lot A)
        - One Neighborhood Park (Lot B)

Lighting

Outdoor lighting in conformance with Section 17.14.170 of the County Ordinance Code is anticipated to be provided at major intersections, mid-block pedestrian crossings, along sag vertical curves where needed to establish adequate sight distance and as appropriate for public safety. Limited safety and security lighting and indirect shielded lighting will also be provided at park sites, gates and clubhouse including but not limited to parking areas, play areas, and walkways where appropriate. The project does not propose to use lighted ball fields or other light intensive uses at the proposed park sites.

Existing Field Conditions

The project site is situated in the foothills of the Sierra Nevada on rolling to relatively flat terrain at an average elevation of about 1,050 feet The project site is primarily used as pasturage and currentlycontains two habitable structures. Newer residential developments are located to the west while ranchettes occupy lands to the north and east. The site was very lightly grazed by cattle and horses at the time of field surveys.

The majority of the site generally drains to the north/northeast into Green Springs Creek. Green Springs Creek, which traverses the northern portion of the study area from east to west, is tributary to Folsom Reservoir by way of New York Creek. The southwestern corner of the parcel appears to drain to the south towards Allegheny Creek which is located outside of the study area boundary. Allegheny Creek is also tributary to Folsom Reservoir by way of Green Springs Creek and New York Creek, respectively.

Methods

A field assessment was conducted on 22 April, 2013 according to regulatory guidelines (October 2003 Interim Guidance on Site Assessment and Field Surveys for Determining Presence or Negative Findings for the California Tiger Salamander; prepared jointly by the U.S. Fish and Wildlife Service and California Department of Fish and Game). These guidelines require that in assessing the likelihood that California tiger salamanders may occur at a given locale, information satisfying the following elements should be compiled and submitted to USFWS for further evaluation and guidance:

Element 1. Is the project within the current or historic range of the California tiger salamander?

Element 2. What are the known localities of California tiger salamander within the project site and within 3.1 miles (5 kilometers) (km) of the project boundaries? This is to place the project in a regional perspective.

Element 3. What are the habitats within the project site and within 1.24 miles (2 kilometers) of the project boundaries? This distance is based on the observed mobility of the species.

To satisfy these elements, first, California tiger salamander locality records were obtained by conducting a computer search of the most recent version of the CNDDB (2013). Next, to place the project in regional perspective, potential records falling within 1.24- and 3.1-mile (2 and 5-kilometer) radii of the project site were examined using the Geographic Information Systems (GIS) program ArcMap 9.2. GIS-generated maps are used to illustrate California tiger salamander distribution relative to the project site (Figure 1, Figure 2). Finally, habitats within and surrounding the project site were identified using a combination of site plans, field surveys, and GIS analysis using digitized USGS 7.5-minute topographic maps and digital orthographic quarter quadrangle (DOQQ) maps (digitized aerial maps) from the California Spatial Information Library (http://gis.ca.gov/) and the National Agriculture Imagery Program (http://www.fsa.usda.gov/FSA/apfoapp?area=home&subject=prog&topic=nai).

Protocol level field surveys for California tiger salamanders were not conducted as part of this assessment.

Results

Element 1 — The project site is not within the documented range of the California tiger salamander, nor does it fall within critical habitat designated for the species. The range of the California tiger salamander with respect to the project site is illustrated in Figure 1.

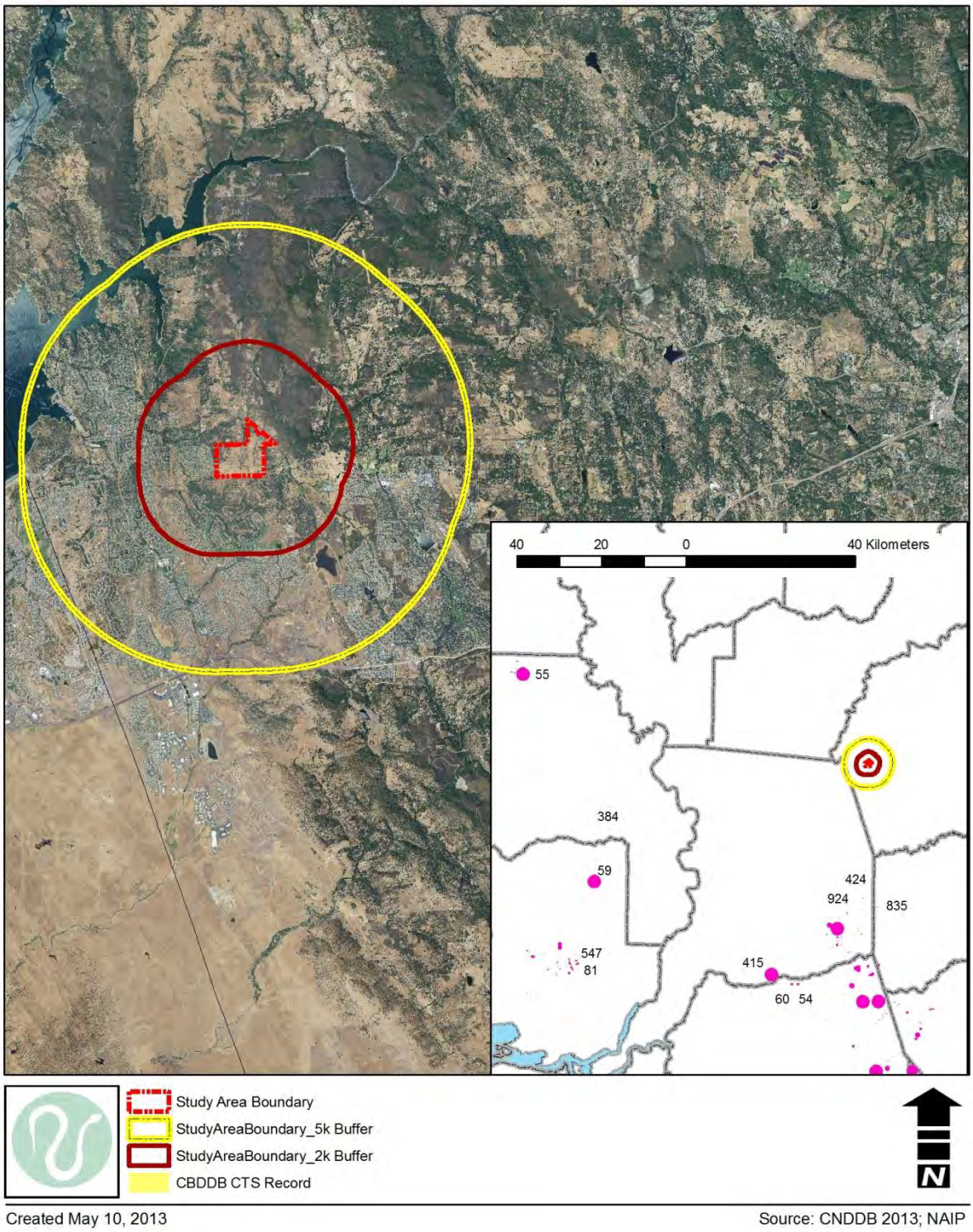
Element 2 — The project site is situated approximately 20 miles east of the known range of California tiger salamander records associated with the foothills of the Sierra Nevada (Jennings and Hayes 1994, CNDDB 2013). No records fall within 3.1 miles (5 km) of the project site; one record (CNDDB Occurrence 424) falls within 19.6 miles of the project site. Representative records from the nearest population clusters and their distance from the project site are reported in Table 1 and are depicted in Figure 1 and Figure 4.

Element 3 — Habitats associated with Green Springs Creek, the Louie Pond impoundment, and the local drainages possess both aquatic and upland characteristics that are marginally suitable for California tiger salamanders. Aquatic habitats consist of interconnected streams, swales, and associated ponds/wetlands. Terrestrial habitats consist mostly of foothill oak woodland with at least some evidence of ground squirrel (*Otospermophilus* [= *Spermophilus*] *beecheyi*) habitation. Habitats are described in detail below. Photographs of selected site features are included in Appendix A.

Table 1. Representative CNDDB occurrence records nearest to the project site

Occ. No.	USGS 7.5' Topographic Quadrangle	Township	Range	Section	County	Year Last Seen	Approx.Distance from Project Site	Elevation
54	Lockeford	05N	07E	32	San Joaquin	1974	33.9 mi	70 ft
59	Dixon	07N	02E	17	Solano	1959	43.7 mi	50 ft
60	Lockeford	05N	07E	32	San Joaquin	1974	34.1 mi	55 ft
81	Dozier	--	--	--	Solano	--	51.8 mi	--
384	Byron Hot Springs	01S	03E	17	Contra Costa	2006	41.3 mi	150 ft
415	Galt	05N	08E	27	Sacramento	1914	33.9 mi	50 ft
424	Carbondale	07N	08E	36	Sacramento	2004	19.6 mi	180 ft
547	Dozier	05N	01E	14	Solano	2007	51.5 mi	23 ft
835	Carbondale	06N	08E	11	Sacramento	2005	21.1 mi	250 ft
924	Carbobdale	06N	09E	05	Amador	2002	21.4 mi	210 ft

FIGURE 4. HABITATS WITHIN THE PROJECT SITE AND WITHIN 1.24 MILES (2 KM) OF THE PROJECT BOUNDARIES



Created May 10, 2013

Source: CNDDB 2013; NAIP

Plant Communities

Plant communities are described by Gibson & Skordal (2011). The study area encompasses several habitat types including non-native annual grasslands, foothill oak savannah/woodland, and numerous water features including agricultural ponds, intermittent and ephemeral drainages, seasonal wetlands, and seeps. The majority of the site supports oak savannah/woodland composed of valley oaks (*Quercus lobata*), live oaks (*Quercus wislizenii*), and blue oaks (*Quercus douglasii*).

The understory consists of dogtail (*Cynosurus echinatus*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), medusa head (*Taeniatherum caput-medusae*), and soft chess (*Bromus hordeaceus*). Interspersed between the oak woodlands/savannah are areas of non-native annual grasslands characterized by wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), and medusa-head (*Taeniatherum caput-medusae*). Other common species include yellow start-thistle (*Centaurea solstitialis*), perennial rye grass (*Lolium perenne*), little quacking grass (*Briza minor*), soft chess (*Bromus hordeaceus*), prickly lettuce (*Lactuca serriola*), and split-leaf geranium (*Geranium dissectum*).

Hydrology

Wetland components are described by Gibson & Skordal (2012). Green Springs Creek and two in-channel impoundments referred to as the Louie Ponds represent the largest water features within the study area. Green Springs Creek and its associated ponds contained several inches of flowing water and supported thick growths of hardstem bulrush (*Scirpus acutus*), creeping spike rush (*Eleocharis macrostachya*), and narrow-leaf cattails (*Typha angustifolia*). Woody vegetation consisted of cottonwoods (*Populus fremontii*) and narrow-leaf willow (*Salix exigua*). Several wetland swale-seep complexes are located within the hillier southern portion of study area. Seeps are most often associated with sloping terrain and derived primarily from groundwater seepage in the winter and spring, while seasonal wetland swales represent vegetated linear sloping drainages that lack a defined bed and bank. Common species included Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), curly dock (*Rumex crispus*), perennial rye grass (*Lolium perenne*), water cress (*Rorippa nasturtium-aquaticum*), tall flat sedge (*Cyperus eragrostis*), and spiny-fruited buttercup (*Ranunculus muricatus*). Photographs of the individual features are provided in Appendix A.

Soils

According to the April 1974, "**Soil Survey of El Dorado Area, California**," four soil map units occur within the study area: Auburn very rocky silt loam, 2-30 percent slopes (AxD), Auburn silt loam, 2-30 percent slopes (AwD), Placer diggings (PrD), and Serpentine Rock Land (SaF).

Observed Species

Adult bullfrogs and juvenile Centrarchid fishes (*Lepomis* spp.) were observed within Green Springs Creek and Louie Pond, both of which can compete with and prey upon California tiger salamanders. Larval Western toad (*Bufo boreas*) and Sierran treefrog (formerly *Pseudachris regilla* - Pacific Treefrog) were also observed, but neither are known to adversely affect California tiger salamanders.

SUMMARY

Potential permanent, marginal California tiger salamander habitat is present on the project site within existing uplands. Potential breeding habitat exists on site in the impoundment of Green Springs Creek referred to as Louie Pond. The proposed project is anticipated to result in a reduction in upland habitat, but no breeding habitat removal is expected.

The project site lies approximately 19 miles north of the northernmost records situated along the Sierra Nevada foothills. Although California tiger salamanders range as high as 3,458 feet, the project site lies at higher elevation than the preponderance of known California tiger salamander records in this portion of the western Sierra Nevada foothills (CNDDB 2013). Despite the presence of suitable habitat and fact that the project site falls within known elevation limits, the presence of predatory species and distance from known populations within this portion of the species' range suggests that California tiger salamanders are unlikely to occur on the project site. Therefore, impacts to California tiger salamanders are not anticipated as part of the proposed project.

REFERENCES

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Appendix A: Photographs

1. Outflow to lower pond (NW).

2. Lower pond (WNW).

3. Lower pond showing vegetation at center crossing (NW).

4. S side lower pond showing edge characteristics - center crossing in background (NNE).

5. S side of lower pond showing edge characteristics - center crossing in background (NW).

6. One of many adult bullfrogs observed in upper pond (east end).

7. Outflow from upper (E end) pond (SE).

8. Lower pond showing vegetation at center crossing (SE).

9. Gravel-bottomed channel of Green Springs Creek flowing into upper pond (NW). Hardstem bulrush in background.

10. Gravel-bottomed channel of Green Springs Creek flowing into upper pond (SE). Hardstem bulrush in background.

11. Overhanging vegetation (*Rubus* spp.) along the margin of Green Springs Creek (W).

12. Intermittent riffles along Green Springs Creek (ESE).

13. Green Springs Creek at the E end of the project site (WNW).

14. Green Springs Creek upstream of the E end of the project site (SE).

15. Western toad larvae in Green Springs Creek at the E end of the project site.

16. Seasonal wet swale at the W center of the project site (see Figure 2).

17. Seasonal wet swale at the E center of the project site (see Figure 2).

18. Depressional seep at the southern edge of the project site (see Figure 2).

Attachment E

Aquatic Resources Delineation Documentation for the Study Area

MADRONE ECOLOGICAL CONSULTING

8421 Auburn Blvd., Suite 248
Citrus Heights, CA 95610
www.madroneeco.com
(916) 822-3230

8 August 2022

Regulatory Project Manager
California South Branch, Regulatory Division
U.S. Army Corps of Engineers, Sacramento District
1325 J Street, Room 1350
Sacramento, California 95814

Subject: **Request for Preliminary and Approved Jurisdictional Determinations for the Generations at Green Valley Project in El Dorado County, California (SPK 2011-00758)**

Dear Sir or Madam,

The Generations at Green Valley Project site was originally delineated by Gibson & Skordal, LLC (G&S) under the project name of Dixon Ranch (SPK 2011-00758). The U.S. Army Corps of Engineers (USACE) issued a Preliminary Jurisdictional Determination (PJD) for the G&S wetland delineation for Dixon Ranch on 26 August 2011. This PJD, including the associated map, is included as **Attachment A**. Since 2011, the proposed project has been revised and been renamed, and the project boundaries have changed. These new project boundaries now include expected off-site infrastructure improvements. We have prepared this package to summarize these changes, and request both a Preliminary Jurisdictional Determination and an Approved Jurisdictional Determination of the Aquatic Resources Delineation map included in **Attachment B** (as detailed below). Preparation of this package involved both surveys of the new portions of the Study Area (which are discussed below), as well as surveys throughout the previously verified portions of the Study Area to document any changes that may have occurred in the intervening time. These surveys were conducted by Senior Biologist Daria Snider and Biologist Matt Shaffer on 26 April, 7 and 24 May, and 9 June 2021.

Changes to Project Boundaries

The majority of the main project site has remained the same; however, small slivers of additional area were added along the southern and eastern boundaries to reflect the surveyed parcel boundaries. In addition, a few small parcels along Green Valley Road were removed from the Project, and portions of Green Valley Road have been added to the Project Area in anticipation of required road improvements. The exhibit provided in **Attachment C** shows the original verified boundary in comparison to the current Project Boundary.

Changes to Land Use within the Project Area

Since 2011, the land use within the vast majority of the Project Area has remained unchanged. Surveys conducted by Ms. Snider throughout the site indicated that the previously mapped aquatic resources were very consistent with current conditions. Hydrology changes upstream of the Project site on Green Springs Creek have resulted in a shorter duration of inundation for the ponds, but the extent of inundation remains the

same. The only changes observed by Ms. Snider were in the northeastern-most parcels, where an active berry farm and associated fruit stand have been abandoned, and a large amount of grading occurred in the general vicinity. The grading did not leave the ground entirely flat, and some hydrophytic vegetation has established in some of the lower areas. However, three parameter data were collected in representative depressions, and hydric soils and wetland hydrology indicators were not found. As a result, these areas appear to be mesic areas in winter, and no aquatic resources were added to the map in these locations. One small depressional seasonal wetland was added to the delineation along an abandoned dirt road, and a seasonal wetland swale just to the northwest (SW1) was reclassified to a depressional seasonal wetland. In addition, wetland types were adjusted to match nomenclature that Madrone typically uses for aquatic resources delineations. All of these modifications are reflected in the aquatic resources delineation map included in **Attachment B**.

Extent of USACE Jurisdiction

The extent of USACE jurisdiction has fluctuated substantially in the past several years; however, the current definition of Waters of the U.S. relies on the pre-2015 regulatory regime, which interprets the 1986 Waters of the U.S. definition in light of the *Rapanos v. United States* and *Carabell v. United States* Supreme Court Decisions. Under this regime, the vast majority of the aquatic resources within the Study Area would most likely be considered Waters of the U.S. either because they fall into a clearly jurisdictional category (such as wetlands abutting a Relatively Permanent Water) or because they could have a significant nexus to a Traditional Navigable Water. This includes four roadside ditch segments that appear to be a re-routed stream channel. These aquatic resources have been grouped into Study Area 1 on the map in **Attachment B**, and we are requesting a Preliminary Jurisdictional Determination for Study Area 1.

Conversely, twelve roadside ditches were constructed in uplands along either side of Green Valley Road during construction of that road, and currently drain only uplands (primarily the roadway they service). Furthermore, these features do not appear to be re-routed stream channels. These aquatic resources have been grouped into Study Area 2 on the map in **Attachment B**. We feel that these features are excluded from USACE jurisdiction, and as a result, we are requesting an Approved Jurisdictional Determination for Study Area 2, which we assert does not contain any Waters of the U.S.

In summary, we are requesting a Preliminary Jurisdictional Determination for Study Area 1 and an Approved Jurisdictional Determination for Study Area 2 on the map included as **Attachment B**. An ORM spreadsheet and GIS shapefiles are being transmitted to you digitally with this letter. The current owner is Green Valley Road Benefits, LLC and their contact information is provided below. If you have any questions or require additional information, please contact me at (916) 822-3230, or at gfodge@madroneeco.com.

Sincerely,

Ginger E. Fodge
Principal

Attachments

cc: Mr. Aidan Barry
Green Valley Road Benefits, LLC
110 Blue Ravine Road, Suite 209
Folsom CA 95630

Attachments

Attachment A: Preliminary Jurisdictional Determination for Dixon Ranch (SPK 2011-00758)

Attachment B: Aquatic Resources Delineation Map for Generations at Green Valley

Attachment C: Comparison of Dixon Ranch PJD Study Area to Current Study Area

Attachment A

Preliminary Jurisdictional Determination
for Dixon Ranch (SPK 2011-00758)

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

August 26, 2011

Regulatory Division SPK-2011-00758

Mr. Joel Korotkin
Dixon Ranch Partners, LLC
949 Tuscan Lane
Sacramento, California 95864

Dear Mr. Korotkin:

We are responding to your August 3, 2011, request for a preliminary jurisdictional determination (JD), in accordance with our Regulatory Guidance Letter (RGL) 08-02, for the Dixon Ranch site. The approximately 296-acre site is located on Section 24, Township 10 North, Range 8 East, Mount Diablo Meridian, Latitude 38.7046°, Longitude -121.0466°, El Dorado Hills, El Dorado County, California.

Based on available information, **we concur with the estimate of potential waters of the United States, as depicted on the August 2011, Jurisdictional Delineation, Dixon Ranch, El Dorado County, California, drawing prepared by Gibson & Skordal, LLC** (enclosure 1). The approximately 7.4145 acres of wetlands or other water bodies present within the survey area may be jurisdictional waters of the United States. These waters may be regulated under Section 404 of the Clean Water Act.

A copy of our RGL 08-02 Preliminary Jurisdictional Determination Form for this site is enclosed. Please sign and return a copy of the completed form to this office (enclosure 2). Once we receive a copy of the form with your signature we can accept and process a Pre-Construction Notification or permit application for your proposed project.

You should not start any work in potentially jurisdictional waters of the United States unless you have Department of the Army permit authorization. You may request an approved JD for this site at any time prior to starting work within waters. In certain circumstances, as described in RGL 08-02, an approved JD may later be necessary.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This preliminary determination has been conducted to identify the potential limits of wetlands and other water bodies which may be subject to Corps of Engineers' jurisdiction for the particular site identified in this request. A Notification of Appeal Process and Request for Appeal (RFA) form is enclosed to notify you of your options with this determination (enclosure 3).

This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2011-00758 in any correspondence concerning this project. If you have any questions, please contact Mr. Peck Ha at our California North Branch Office, Regulatory Division, Sacramento District, U.S. Army Corps of Engineers, 650 Capitol Mall, Suite 5-200, Sacramento, California 95814-2922, email *Peck.Ha@usace.army.mil*, or telephone 916-557-6617. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/regulatory.html*.

Sincerely,

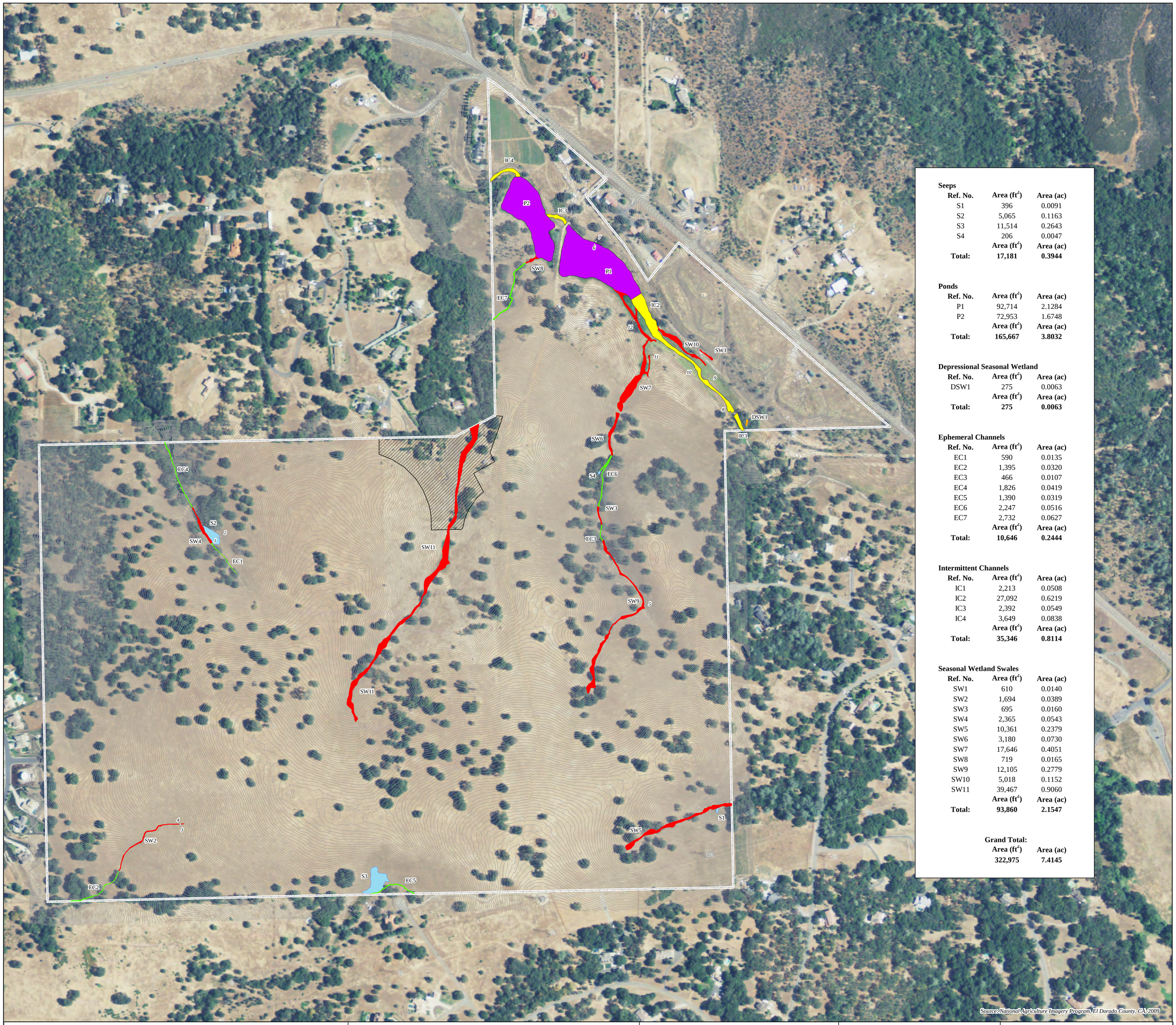
ORIGINAL SIGNED

Nancy Arcady Haley
Chief, California North Branch

Enclosures

Copies Furnished with enclosure 1:

Mr. Dan Radulescu, Storm Water and Water Quality Certification Unit, California Regional Water Quality Control Board, Central Valley Region, 11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Mr. Kent Smith, California Department of Fish and Game, Region 2, 1701 Nimbus Drive, Rancho Cordova, California 95670-4599
Ms. Kim Squires, Forest Foothill Branch, U.S. Fish and Wildlife Service, Endangered Species Division, 2800 Cottage Way, Suite W2605, Sacramento, California 95825-3901
Mr. Jason Brush, Environmental Protection Agency, WRT-8, 75 Hawthorne Street, San Francisco, California 94105
✓Mr. Jim Gibson, Gibson & Skordal, LLC, 2277 Fair Oaks Blvd, Suite 105, Sacramento, California 95825
El Dorado County Planning Department, 2850 Fairlane Court, Placerville, California 95667-4103



Seeps

Ref. No.	Area (ft²)	Area (ac)
S1	396	0.0091
S2	5,065	0.1163
S3	11,514	0.2643
S4	206	0.0047
	Area (ft²)	**Area (ac)**
Total:	**17,181**	**0.3944**

Ponds

Ref. No.	Area (ft²)	Area (ac)
P1	92,714	2.1284
P2	72,953	1.6748
	Area (ft²)	**Area (ac)**
Total:	**165,667**	**3.8032**

Depressional Seasonal Wetland

Ref. No.	Area (ft²)	Area (ac)
DSW1	275	0.0063
	Area (ft²)	**Area (ac)**
Total:	**275**	**0.0063**

Ephemeral Channels

Ref. No.	Area (ft²)	Area (ac)
EC1	590	0.0135
EC2	1,395	0.0320
EC3	466	0.0107
EC4	1,826	0.0419
EC5	1,390	0.0319
EC6	2,247	0.0516
EC7	2,732	0.0627
	Area (ft²)	**Area (ac)**
Total:	**10,646**	**0.2444**

Intermittent Channels

Ref. No.	Area (ft²)	Area (ac)
IC1	2,213	0.0508
IC2	27,092	0.6219
IC3	2,392	0.0549
IC4	3,649	0.0838
	Area (ft²)	**Area (ac)**
Total:	**35,346**	**0.8114**

Seasonal Wetland Swales

Ref. No.	Area (ft²)	Area (ac)
SW1	610	0.0140
SW2	1,694	0.0389
SW3	695	0.0160
SW4	2,365	0.0543
SW5	10,361	0.2379
SW6	3,180	0.0730
SW7	17,646	0.4051
SW8	719	0.0165
SW9	12,105	0.2779
SW10	5,018	0.1152
SW11	39,467	0.9060
	Area (ft²)	**Area (ac)**
Total:	**93,860**	**2.1547**

Grand Total:

Area (ft²)	Area (ac)
322,975	**7.4145**

Revised Jurisdictional Delineation
Dixon Ranch
El Dorado County, California

- Dedicated to Others
- Data Point
- Depressional Seasonal Wetland
- Seep
- Seasonal Wetland Swale
- Pond
- Ephemeral Channel
- Intermittent Channel
- Study Area Boundary (+/-296 acres)

N

0 200 400 800

Feet

Prepared For:

Dixon Ranch Partners, LLC
949 Tuscan Lane
Sacramento, California 95864

GIBSON & SKORDAL, LLC
WETLAND CONSULANTS
2277 Fair Oaks Blvd., Ste. 105
Sacramento, CA 95825
Telephone: (916) 569-1830

Prepared By: M. Hirkala

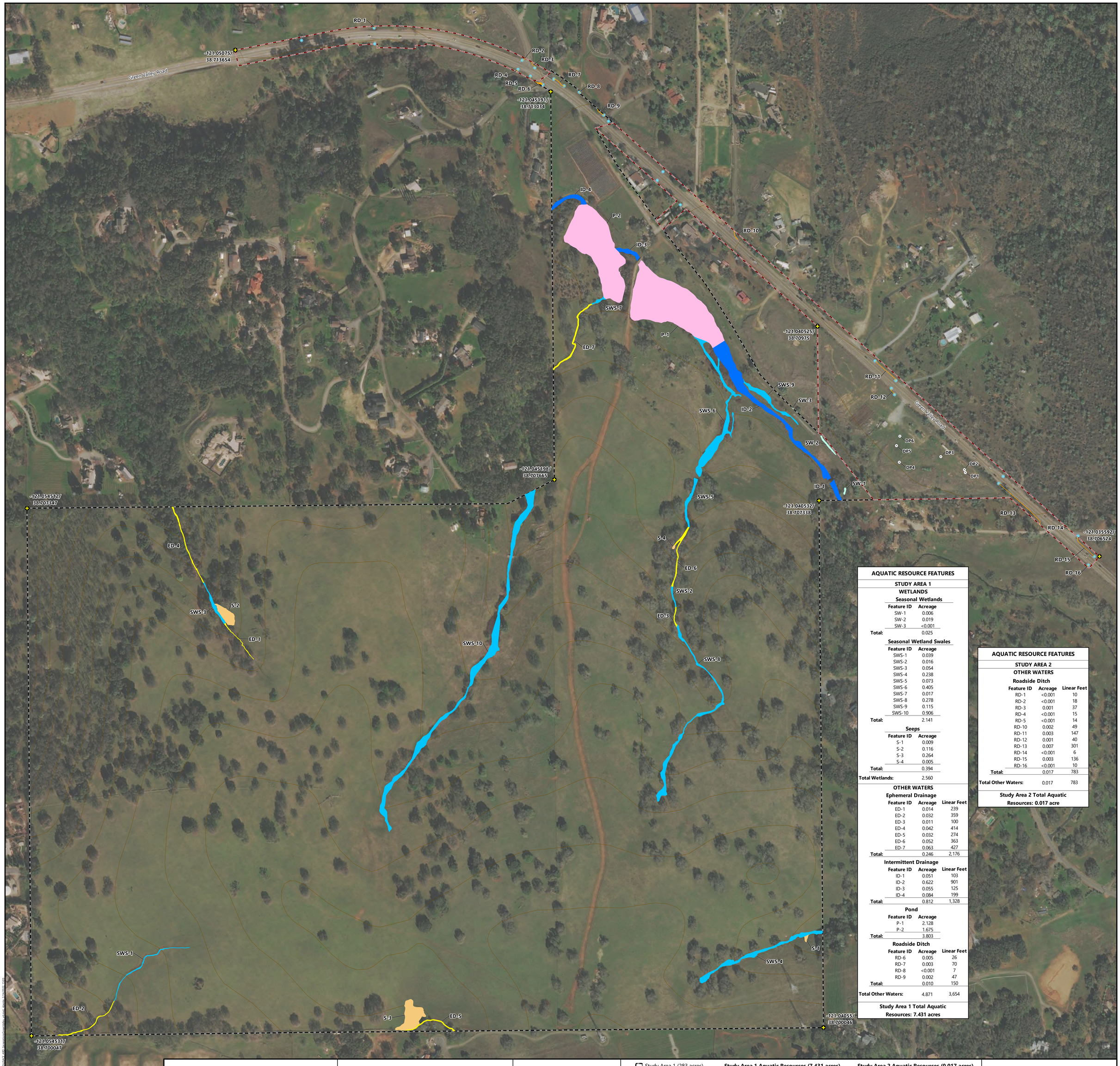
Prepared Date: August 2011

Revised Date:

Aerial Photo: July 3, 2009

Attachment B

Aquatic Resources Delineation Map
for Generations at Green Valley



AQUATIC RESOURCE FEATURES

STUDY AREA 1

WETLANDS

Seasonal Wetlands

Feature ID	Acreage
SW-1	0.006
SW-2	0.019
SW-3	<0.001
Total:	0.025

Seasonal Wetland Swales

Feature ID	Acreage
SWS-1	0.039
SWS-2	0.016
SWS-3	0.054
SWS-4	0.238
SWS-5	0.073
SWS-6	0.405
SWS-7	0.017
SWS-8	0.278
SWS-9	0.115
SWS-10	0.906
Total:	2.141

Seeps

Feature ID	Acreage
S-1	0.009
S-2	0.116
S-3	0.264
S-4	0.005
Total:	0.394

Total Wetlands: 2.560

OTHER WATERS

Ephemeral Drainage

Feature ID	Acreage	Linear Feet
ED-1	0.014	239
ED-2	0.032	359
ED-3	0.011	100
ED-4	0.042	414
ED-5	0.032	274
ED-6	0.052	363
ED-7	0.063	427
Total:	0.246	2,176

Intermittent Drainage

Feature ID	Acreage	Linear Feet
ID-1	0.051	103
ID-2	0.622	901
ID-3	0.055	125
ID-4	0.084	199
Total:	0.812	1,328

Pond

Feature ID	Acreage
P-1	2.128
P-2	1.675
Total:	3.803

Roadside Ditch

Feature ID	Acreage	Linear Feet
RD-6	0.005	26
RD-7	0.003	70
RD-8	<0.001	7
RD-9	0.002	47
Total:	0.010	150

Total Other Waters: 4.871 3,654

Study Area 1 Total Aquatic Resources: 7.431 acres

AQUATIC RESOURCE FEATURES

STUDY AREA 2

OTHER WATERS

Roadside Ditch

Feature ID	Acreage	Linear Feet
RD-1	<0.001	10
RD-2	<0.001	18
RD-3	0.001	37
RD-4	<0.001	15
RD-5	<0.001	14
RD-10	0.002	49
RD-11	0.003	147
RD-12	0.001	40
RD-13	0.007	301
RD-14	<0.001	6
RD-15	0.003	136
RD-16	<0.001	10
Total:	0.017	783

Total Other Waters: 0.017 783

Study Area 2 Total Aquatic Resources: 0.017 acre

Notes:
Map Scale: 1 inch = 200 feet
Coordinate System: NAD 1983 State Plane California II
Datum: NAD83 (North American Datum 1983)
Projection: Lambert Conformal Conic
Vertical Data: NAVD88 (North American Vertical Datum 1988)
Aerial Base: Maxar
Aerial Base Flown: 27 February 2021 and 4 March 2021
Topographic Contours: USGS NED 1/3 arc-second Contours for Sacramento W, California. 1 October 2018

Delineation Performed by: J. Gibson, M. Hirkala, and D. Snider
Original Delineation Verification Date: 26 August 2011
Original Identification Number: SPK-2011-00758
Map Prepared by: N. Bente
Date Map Prepared: 15 February 2022
Definitions:
NAD = North American Datum
NAVD = North American Vertical Datum
NED = National Elevation Datase
USGS = United States Geological Survey

Prepared For:
The True Life Companies
110 Blue Ravine Road, Suite 209
Folsom, California 95630

N
Feet
0 100 200

- Study Area 1 (283 acres)
- Study Area 2 (18 acres)
- Reference Point
- Ground Surface Elevation, 10 foot contour
- Data Point
- Culvert
- Ground Surface Elevation, 10 foot contour

Study Area 1 Aquatic Resources (7.431 acres)
Wetlands (2.560 acres)
- Seasonal Wetland (0.025 acre)
- Seasonal Wetland Swale (2.141 acres)
- Seep (0.394 acre)

Other Waters (4.871 acres)
- Ephemeral Drainage (0.246 acre)
- Intermittent Drainage (0.812 acre)
- Pond (3.803 acres)
- Roadside Ditch (0.010 acre)

Study Area 2 Aquatic Resources (0.017 acres)
Other Waters (0.017 acre)
- Roadside Ditch (0.017 acre)

Aquatic Resources Delineation

Generations at Green Valley Road
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING
8421 Auburn Boulevard, Suite 248
Citrus Heights, California 95610
(916) 822.3230 | www.madroneeco.com

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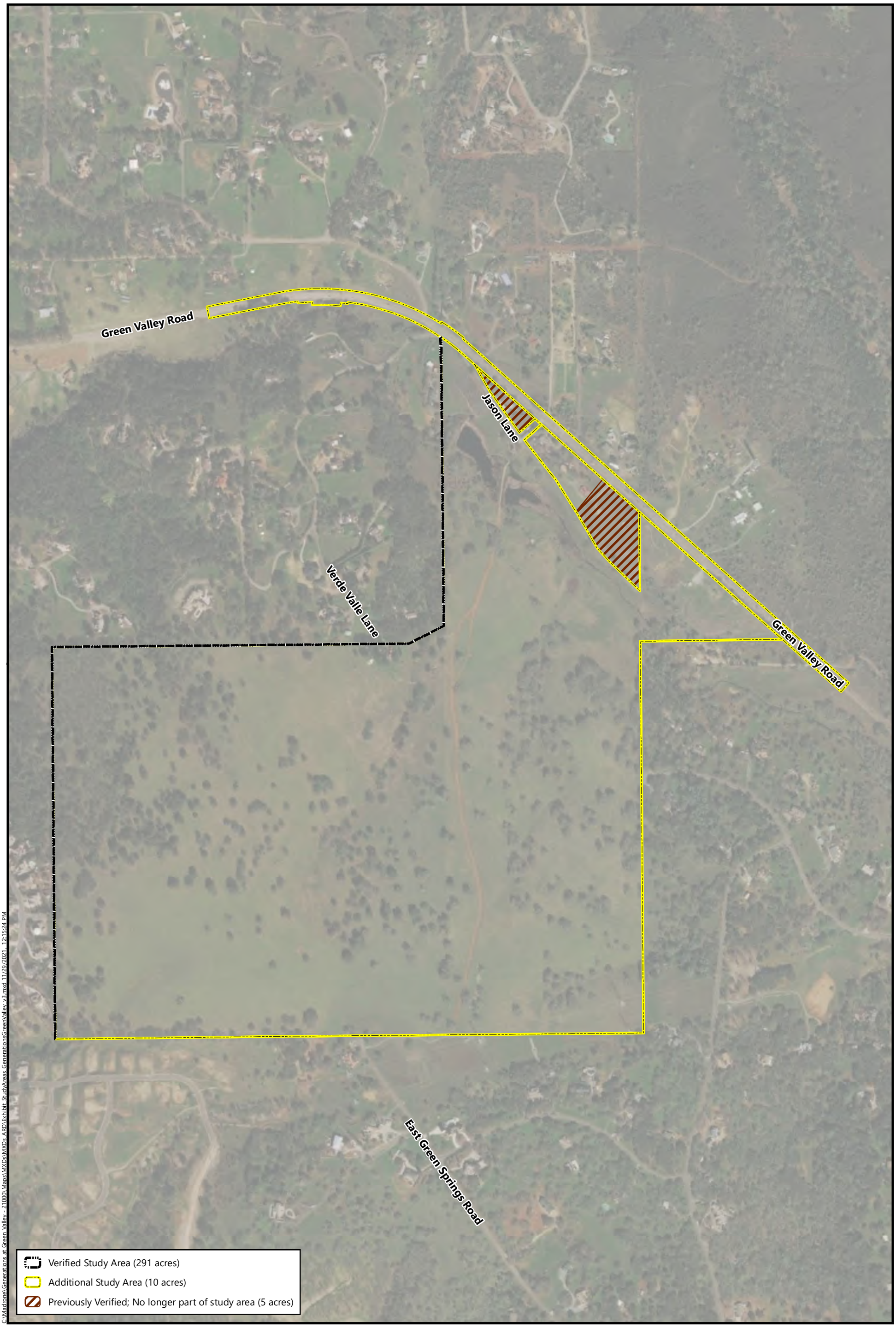
Attachment C

Comparison of Dixon Ranch
PJD Study Area
to Current Study Area



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Study Areas

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

Aerial Source: Maxar, 27 February 2021 and 4 March 2021.

Attachment G

Oak Woodland Assessment

MADRONE ECOLOGICAL CONSULTING

Memo

To: Aidan Barry, Green Valley Road Benefits, LLC

From: Daria Snider, Senior Biologist

Date: 18 November 2021, updated 10 November 2022

Subject: Generations at Green Valley - Oak Woodland Assessment and Mitigation Summary

Dear Mr. Barry:

At your request, I have completed an assessment of the extent of Oak Woodlands on the Generations at Green Valley Property (Study Area). We originally provided a report of our assessment to you on 18 November 2021. This version updates the Study Area acreage, which has been modified since the time of our original report.

Oak Woodlands were mapped as defined in *El Dorado County Oak Resources Management Plan* (ORMP), dated September 2017. The ORMP defines Oak Woodlands consistent with the state Oak Woodlands Conservation Act as "an oak stand with greater than ten percent canopy cover." This definition leaves considerable ambiguity regarding minimum mapping units and how much interstitial grassland to include in woodlands. I have mapped the Oak Woodlands within the Study Area on the attached exhibit as seemed appropriate to me during preliminary aerial analysis and my subsequent field survey of the site on 19 February 2021. Although there are certainly individual oak trees (which are also regulated under the ORMP) that are not included within the mapped Oak Woodlands, the density of trees outside of the polygons did not appear to me to constitute an Oak Woodland. Furthermore, the herbaceous understory vegetation within the Oak Woodlands on-site is slightly different than the surrounding grasslands. The majority of the annual grasslands within the Project site are dominated by non-native bromes (*Bromus* species) and medusahead grass (*Elymus caput-medusae*), but the oak woodlands also have substantial cover of hedgehog dogtail grass (*Cynosurus echinatus*). The Oak Woodlands were mapped based on a combination of observed tree density and understory vegetation patterns. I have mapped 109.2 acres of Oak Woodland within the 301-acre Study Area. Representative photographs of oak woodlands and isolated trees are attached.

Mitigation for impacts to oak trees within El Dorado County is detailed in the ORMP. For your convenience, I have summarized these mitigation measures below.

Oak Woodland Mitigation

Percent of Oak Woodland Impact	Oak Woodland Mitigation Ratio
0-50%	1:1
50.1-75%	1.5:1
75.1-100%	2:1

The current Oak Woodland In-Lieu Mitigation Fee is $8,285/acre.

For example, if 50% (54.6 acres) of the Oak Woodland within the Study Area was removed, then 54.6 acres (1:1 ratio) of in-lieu fee would be assessed, and the total cost would be $452,361. If 60% (65.5 acres) were removed, then 98.1 acres (1.5:1 ratio) of in-lieu fee would be assessed, and the total cost would be $814,001.

Oak woodland mitigation reductions are available on a tiered scale for incorporation of affordable housing. For example, incorporating 5% Moderate Income Affordable Housing would result in a reduction of 2.5% of the total oak woodland mitigation.

Individual Oak Trees
Individual Oak Trees are defined as all oak trees that are in areas not mapped as Oak Woodland with a Diameter at Breast Height (DBH) greater than 6" or a cumulative DBH greater than 10", but below 36".

The In-lieu Mitigation Fee for impacts to Individual Oak Trees is $153 per inch.

As an example, the in-lieu fee for removal of a 6" DBH oak tree would be $918, and the in-lieu fee for removal of a 24" DBH oak tree would be $3,672.

Heritage Oak Trees
Heritage Oak Trees are defined as all oak trees with a DBH of 36" or greater, regardless of whether they are located in an Oak Woodland.

The In-lieu Mitigation Fee for impacts to Heritage Oak Trees is $459 per inch.

As an example, the in-lieu fee for removal of a 36" DBH oak tree would be $16,524.

We appreciate the opportunity to assist you with this review. Please contact me or Ginger Fodge at (916) 822-3230 if you have any questions regarding this information.

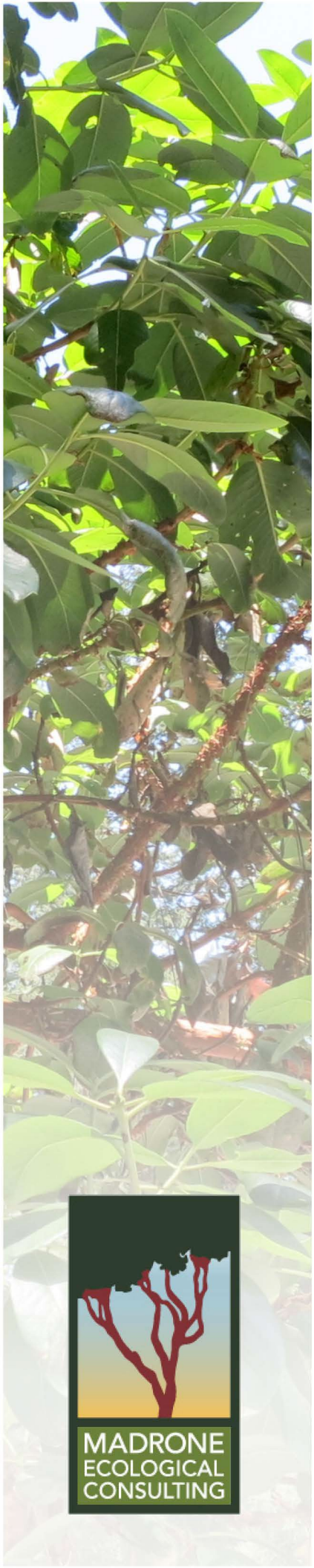
C:\Madrone\Generations at Green Valley - 21000\Maps\MXDs\MXDs Oaks\Exhibit OakWoodland GenAtGV v3.mxd 11/10/2022 11:21:54 AM

Study Area Boundaries Source: CTA Engineering & Surveying, 26 October 2022.
Aerial Source: Maxar, 1 May 2022.

Oak Woodland Map

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING



Biological Resources Assessment

Generations at Green Valley

El Dorado County

April 2024

MADRONE ECOLOGICAL CONSULTING

Prepared for:
Green Valley Road Benefits, LLC
110 Blue Ravine Road, Suite 103
Folsom, California 95630

Recommended Citation:
Madrone Ecological Consulting, LLC (Madrone). 2024. *Biological Resources Assessment for Generations at Green Valley*. Prepared for Green Valley Road Benefits, LLC. Published on 2 April 2024.

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Attachment B. CNDDB Query Results for the "Clarksville, California" Quadrangle and Eight Surrounding Quadrangles
Attachment C. IPaC Trust Resource Report for the Study Area
Attachment D. CNPS Inventory of Rare and Endangered Plants Query for the "Clarksville, California" Quadrangle and Eight Surrounding Quadrangles
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Attachment I. Special-Status Plant Survey Report

1.0 INTRODUCTION

This report presents the results of a Biological Resources Assessment (BRA) for the Generations at Green Valley Project (Project). The 314-acre Generations at Green Valley overall study area (Study Area), which includes a 301-acre on-site development area dominated by the subdivision site and 13 acres of off-site infrastructure development areas that may be impacted as a result of Project construction, is generally located along and south of Green Valley Road in unincorporated El Dorado County, California. The on-site portion of the Study Area is located at 3200 Verde Valle Road (APN 126-020-001) within portions of Section 19, Township 10 North, Range 9 East (MDB&M) and Section 24, Township 10 North, Range 8 East of the "Clarksville, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2021) (**Figure 1**). Off-site infrastructure areas include (1) areas adjacent to the on-site portion of the Study Area along Green Valley Road and western and southern on-site access points (referred to as off-site adjacent areas); (2) an area approximately 0.6 mile west of the on-site portion along an El Dorado Irrigation District (EID) sewer easement and at a sewer lift station between Appian Way and Loch Way (referred to as the northwestern off-site area throughout this document); and (3) an area approximately 1.1 mile southwest of the on-site portion along a Sacramento Municipal Utility District (SMUD) easement that currently follows an existing paved bike trail (referred to as the southwestern off-site area throughout this document). While the impact areas for the on-site portion of the Study Area are well defined, the potential impact limits within the off-site areas are unknown at this time. As such, this assessment assumes a maximum development footprint for the off-site areas.

1.1 Project Description

The Project is a residential subdivision with supporting infrastructure (**Attachment A**). The preliminary tentative subdivision map shows 379 single-family lots, landscape lots, open space lots, a park lot, a clubhouse lot, and on-site detention basins. As proposed, the subdivision will have two main entrances off of Green Valley Road and three emergency vehicle accesses (EVAs) to the south, east, and north. Construction of the EVAs will result in minor impacts where EVAs connect to existing roadways. Off-site improvements include Green Valley Road roadway access modifications, upgrades to an existing sewer lift station just north of Loch Way in the northwestern off-site areas, and installation of utilities such as sanitary sewer system and potable water connections along Green Valley Road (water), Green Springs Road (water), the EID easement (sanitary sewer; northwestern off-site area), and the SMUD easement (sanitary sewer; southwestern off-site area).

To the extent feasible, existing aquatic resources will be avoided. In some areas, drainage may be discharged to existing seasonal wetland swales, ephemeral drainages, and/or intermittent drainages. Where roads cross intermittent and ephemeral drainages and seasonal wetland swales, direct impacts to these features will be avoided by using a type of crossing that does not require the discharge of fill in these areas (e.g., open bottom arch culverts, clear span bridges). Construction of the northernmost subdivision access road from Green Valley Road would remove and reconstruct an existing embankment and access road that currently ponds water upstream. An adjacent downstream pond would be reconstructed to pass Green Spring Creek flows. The downstream pond also currently supports an embankment that would be removed as part of the

channel reconstruction. Both embankments are proposed for modification due to concerns of overtopping during an existing 100-year storm event, a potential public safety issue. As proposed, the Project would pass Green Spring Creek flows through the property in a way that enhances public safety and reestablishes access to the site across the upper embankment.

Off-site improvements in the southwestern off-site area are proximate to Allegheny Creek but can be designed to avoid all direct impacts to the creek.

This document evaluates the Study Area and makes recommendations for potential biological resource impacts based on the preliminary grading and drainage plans for the on-site portion of the Study Area and estimates of impact area limits for the off-site infrastructure areas (**Attachment A**).

2.0 REGULATORY SETTING

This section describes federal, state and local laws and policies that are relevant to this BRA.

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 protects species that are federally listed as endangered or threatened with extinction. FESA prohibits the unauthorized "take" of listed species. Take includes harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such activities. Harm includes significant modifications or degradations of habitats that may cause death or injury to protected species by impairing their behavioral patterns. Harassment includes disruption of normal behavior patterns that may result in injury to or mortality of protected species. Civil or criminal penalties can be levied against persons convicted of unauthorized "take."

2.1.2 Clean Water Act, Section 404

Section 404 of the Federal Clean Water Act requires that a Department of the Army permit be issued prior to the discharge of dredged or fill material into waters of the United States, including some wetlands. The U.S. Army Corps of Engineers (USACE) administers this program, with oversight from the U. S. Environmental Protection Agency. As of the date of this document, waters of the United States (waters of the U.S.) are defined as follows (40 CFR 120.2):

1. Waters which are:
    i. Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
    ii. The territorial seas; or
    iii. Interstate waters;

2. Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under item (5) below;
3. Tributaries of waters identified in items (1) or (2) above that are relatively permanent, standing or continuously flowing bodies of water;
4. Wetlands adjacent to the following waters:
    i. Waters identified in item (1) of this section; or
    ii. Relatively permanent, standing or continuously flowing bodies of water identified in items (2) or (3) above and with a continuous surface connection to those waters;
5. Intrastate lakes and ponds not identified in paragraphs (1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in items (1) or (3) above.

Under the current definition of waters of the U.S., "adjacent" means *having a continuous surface connection*.

Waters subject to regulation under Section 404 are referred to as "jurisdictional waters".

2.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, any native migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11). Likewise, Section 3513 of the California Fish & Game Code prohibits the "take or possession" of any migratory non-game bird identified under the MBTA. Therefore, activities that may result in the injury or mortality of native migratory birds, including eggs and nestlings, would be prohibited under the MBTA.

2.2 State Regulations

2.2.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires evaluations of project effects on biological resources. Determining the significance of those effects is guided by Appendix G of the CEQA guidelines. These evaluations must consider direct effects on a biological resource within the project site itself, indirect effects on adjacent resources, and cumulative effects within a larger area or region. Effects can be locally important but not significant according to CEQA if they would not substantially affect the regional population of the biological resource. Significant adverse impacts on biological resources would include the following:

- Substantial adverse effects on any species identified as candidate, sensitive, or special-status in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Service (USFWS) (these effects could be either direct or via habitat modification);
- Substantial adverse impacts to species designated by the California Department of Fish and Game (2009) as Species of Special Concern;

- Substantial adverse effects on riparian habitat or other sensitive habitat identified in local or regional plans, policies, or regulations or by CDFW and USFWS;
- Substantial adverse effects on federally protected wetlands defined under Section 404 of the Clean Water Act (these effects include direct removal, filling, or hydrologic interruption of marshes, vernal pools, coastal wetlands, or other wetland types);
- Substantial interference with movements of native resident or migratory fish or wildlife species population, or with use of native wildlife nursery sites;
- Conflicts with local policies or ordinances protecting biological resources (e.g., tree preservation policies); and
- Conflict with provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

2.2.2 State Endangered Species Act

With limited exceptions, the California Endangered Species Act (CESA) of 1984 protects state-designated endangered and threatened species in a way similar to FESA. For projects on private property (i.e., that for which a state agency is not a lead agency), CESA enables CDFW to authorize take of a listed species that is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish and Game Code Section 2081).

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

2.2.4 Clean Water Act, Section 401

Section 401 of the Clean Water Act requires any applicant for a 404 permit in support of activities that may result in any discharge into waters of the United States to obtain a water quality certification with the Regional Water Quality Control Board (RWQCB). This program is meant to protect these waters and wetlands by ensuring that waste discharged into them meets state water quality standards. Because the water quality certification program is triggered by the need for a Section 404 permit (and both programs are a part of the Clean Water Act), the definition of waters of the United States under Section 401 is the same as that used by the USACE under Section 404.

2.2.5 California Water Code, Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne), from Division 7 of the California Water Code, requires any person discharging waste or proposing to discharge waste that could affect the quality

of waters of the state to file a report of waste discharge (RWD) with the RWQCB. The RWQCB can waive the filing of a report, but once a report is filed, the RWQCB must either waive or adopt water discharge requirements (WDRs). "Waters of the state" are defined as any surface water or groundwater, including saline waters, within the boundaries of the state.

2.2.6 California Fish and Game Code, Section 1600 – Streambed and Lake Alteration

The CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code, Section 1602, requires notification to CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

For the purposes of Section 1602, rivers, streams and lakes must flow at least intermittently through a bed or channel. If notification is required and CDFW believes the proposed activity is likely to result in adverse harm to the natural environment, it will require that the parties enter into a Lake or Streambed Alteration Agreement (LSAA).

2.2.7 California Fish and Game Code, Section 3503.5 - Raptor Nests

Section 3503.5 of the Fish and Game Code makes it unlawful to take, possess, or destroy hawks or owls, unless permitted to do so, or to destroy the nest or eggs of any hawk or owl.

2.2.8 California Fish and Game Code, Section 3511, 4700, 5050, and 5515 – Fully Protected Species

California Fish and Game Code identifies "fully protected species" in sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish). The state initially identified fully protected species in the 1960s to identify and provide additional protection to animals that were rare or faced possible extinction. Subsequent passage of the California Endangered Species Act has offered additional protection to some fully protected species.

Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research, relocation of the bird species for the protection of livestock, or if they are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan (NCCP).

2.3 Local Regulations

2.3.1 El Dorado County Zoning Ordinance, Protection of Wetlands and Sensitive Riparian Habitat

The El Dorado County Zoning Ordinance Site Planning and Project Design Standards for setback requirements (Section 130.30.050) establishes standards for avoidance and minimization of impacts to wetlands and sensitive riparian habitat. This section of the Ordinance applies to discretionary projects adjacent to perennial streams, intermittent streams, wetlands, or any sensitive riparian habitat within the County. The Ordinance requires new development to avoid or minimize impacts to these habitat types. If the habitats cannot be avoided, the County requires an assessment that establishes appropriate buffers to reduce impacts to a less than significant level and mitigation consistent with state or federal permit requirements. Storm drain and irrigation outflow structures are permitted as long as they are approved by the County as part of the development process.

2.3.2 El Dorado County Zoning Ordinance, Oak Resources Conservation

Chapter 130.39 of the El Dorado County Zoning Ordinance requires mitigation for impacts to native oak trees in all portions of unincorporated El Dorado County below 4,000 feet in elevation. This Chapter requires documentation of all oak woodlands, individual native oak trees, and heritage native oak trees (collectively, Oak Resources) on a site if any oak impacts are proposed on that site. Furthermore, an Oak Resources Technical Report must be prepared as stipulated in the Chapter. Mitigation for impacts to Oak Resources is typically accomplished through payment of an in-lieu fee to the Oak Woodland Conservation Fund.

2.3.3 El Dorado County Ecological Preserves Ordinance

Chapter 130.71 of the El Dorado County Code requires mitigation or payment of a fee in-lieu of mitigation for development of any property within Mitigation Areas 0, 1, or 2. This fee is commonly referred to as the Rare Plant Mitigation fee and is to be paid in full upon issuance of a building permit for all new developments within the County. "Mitigation Area 0" means lands within the Gabbro Soils Rare Plant Ecological Preserve, as shown on maps on file in the Department, adopted by Ordinance 4500. "Mitigation Area 1" means lands outside of Mitigation Area 0 but within the area described as the "rare soils study area" on the same map, and "Mitigation Area 2" means lands outside of Mitigation Areas 0 and 1 but within the El Dorado Irrigation District service area, excluding those lots served by wells. The Study Area is located at least partially within Mitigation Area 1, which assigns a current mitigation fee of $885 per dwelling unit equivalent (El Dorado County 2022).

3.0 METHODOLOGY

3.1 Literature Review

A list of special-status species with potential to occur within the Study Area was developed by conducting a query of the following databases:

- California Natural Diversity Database (CNDDB) (CNDDB 2022 and 2024) queries of the "Clarksville, California" USGS 7.5-minute quadrangle and the eight surrounding quadrangles (searched using the nine quadrangle names) (**Figure 2** and **Attachment B**);
- USFWS Information for Planning and Conservation (IPaC) (USFWS 2022) query for the Study Area (**Attachment C**);
- California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (CNPS 2022 and 2024) query of the "Clarksville, California" USGS topo quadrangle, and the eight surrounding quadrangles (**Attachment D**);
- Verified records from Bumble Bee Watch (BBW 2024);
- Queries of the Western Monarch Milkweed Mapper (WMMM 2024) and Western Monarch Overwintering Site Viewer (Xerxes Society 2024) databases;
- Research grade observations from iNaturalist (iNaturalist 2024);
- Western Bat Working Group (WBWG) Species Matrix (WBWG 2022); and
- Cornell Laboratory of Ornithology's eBird database (Cornell Laboratory of Ornithology 2022 and 2024a).

In addition, any special-status species that are known to occur in the region, but that were not identified in any of the above database searches and/or were requested for consideration by the County were also analyzed for their potential to occur within the overall Study Area.

For the purposes of this Biological Resources Assessment, special-status species is defined as those species that are:

- listed as threatened or endangered, or proposed or candidates for listing by the USFWS or National Marine Fisheries Service;
- listed as threatened or endangered and candidates for listing by CDFW;
- identified as Fully Protected species or species of special concern by CDFW;
- identified as Medium or High priority species by the WBWG; and
- plant species considered to be rare, threatened, or endangered in California by the CNPS and CDFW [California Rare Plant Rank (CRPR) 1, 2, and 3]:
  - CRPR 1A: Plants presumed extinct.
  - CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
  - CRPR 2A: Plants extirpated in California, but common elsewhere.
  - CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
  - CRPR 3: Plants about which the CNPS needs more information – a review list.

3.2 Field Surveys

Madrone biologists Daria Snider and Matt Shaffer assessed the suitability of habitats on-site to support special-status species on 26 April, 7 and 24 May, and 9 June 2021 and 5 January 2024. The Study Area was comprehensively surveyed on foot by walking through all accessible areas. Vegetation communities were classified in accordance with *The Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf and

Evens 2009), and plant taxonomy was based on the nomenclature in the *Jepson eFlora* (Jepson Flora Project 2022). A list of all wildlife species observed during these field surveys is included as **Attachment E**. Additionally, Madrone biologists completed the following focused field surveys of the Study Area:

- Aquatic resources survey to review and update aquatic resources delineation previously verified by the USACE (**Attachment F**);
- California red-legged frog (*Rana draytonii*; CRLF) habitat assessment and surveys (**Attachment G**);
- Oak woodland assessment (**Attachment H**); and
- Special-status plant survey (**Attachment I**).

Aquatic resources on the Generations at Green Valley site were originally delineated by Gibson & Skordal, LLC (G&S) under the project name of Dixon Ranch. The USACE issued a Preliminary Jurisdictional Determination (PJD) for the G&S wetland delineation for Dixon Ranch on 26 August 2011. Since the time of the 2011 PJD, the proposed Project boundaries have changed, and the Project has been renamed. To review previously mapped areas and identify aquatic resources that may be present in areas not surveyed in 2011, Ms. Snider and Mr. Shaffer completed surveys of the current Study Area on 26 April, 7 and 24 May, and 9 June 2021 and 5 January 2024. Results of these surveys indicate that the previously mapped aquatic resource conditions were very consistent with current conditions. The revised aquatic resources delineation map is included in **Attachment F**. A request for a jurisdictional determination for the revised map has been submitted to the USACE.

Eric C. Hansen and Adam Johnson completed an evaluation of potential CTS habitat in the Study Area in April 2013 (Hansen 2013a). The evaluation was completed according to the October 2003 *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or Negative Findings for the California Tiger Salamander* (USFWS and CDFG 2003). Mr. Hansen and Mr. Johnson also completed an evaluation of potential CRLF habitat in the Study Area in April 2013 (Hansen 2013b) and a protocol-level survey for CRLF in 2016 (Hansen 2016). The CRLF habitat assessment and surveys followed guidance provided in USFWS' *Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog* (USFWS 2005). No CRLF were identified during the 2016 surveys.

Hansen and Johnson's 2016 surveys were conducted in the summer only and did not include surveys that were timed (January through March) to observe egg masses. Since these surveys were conducted, the number of surveys required by the USFWS has increased, the Study Area has changed to add offsite utility improvements, and the results of these surveys are typically valid for only two years. Due to these reasons, Madrone biologist Dustin Brown conducted an updated habitat assessment and visual encounter surveys. Mr. Brown completed the updated CRLF habitat assessment of on-site and off-site habitats on 5 November 2021 and 19 January 2024, respectively . The site assessments also followed the USFWS guidance. Aquatic habitats and adjacent uplands were evaluated for their potential to support breeding, foraging, dispersal and refugia or aestivation habitat. During the site visit, all aquatic resources located within the Study Area were visited and assessed for the potential to provide suitable aquatic habitat for CRLF. Habitat assessments were completed for aquatic features that could potentially pond water through the spring and early summer, as well as adjacent uplands

surrounding such aquatic features. A survey report of Madrone's habitat assessment, which also includes consideration of off-site infrastructure areas, is included in **Attachment G**.

An Oak Woodlands Technical Report as required by the El Dorado County Zoning Ordinance and arborist report are being completed by California Tree and Landscape Consulting, Inc., and will be submitted to El Dorado County under separate cover. To inform this BRA, Ms. Snider mapped and assessed the extent of oak woodlands in the Study Area on 19 February 2021. Oak woodlands were mapped as defined in El Dorado County Oak Resources Management Plan (ORMP), dated September 2017. A copy of Ms. Snider's assessment report, which considers on- and off-site areas, is included as **Attachment H**.

Finally, Ms. Snider conducted protocol-level rare plant surveys of the on-site portion of the Study Area on 26 April, 7 May, and 9 June 2021 in accordance with the *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000), the *Botanical Survey Guidelines of the California Native Plant Society* (CNPS 2001), and *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018). A report detailing the methods and results of the 2021 survey is included as **Attachment I**. A survey of off-site areas is scheduled for spring 2024; the results will be provided to the County upon completion of that survey.

4.0 EXISTING CONDITIONS

The Study Area is located on rolling terrain and consists primarily of annual brome grassland and blue oak woodlands. A narrow band of willow riparian scrub occurs along a seasonal wetland swale in the central portion of the main Study Area, and two large ponds (referred to as the upper and lower ponds in this document) occur in the northern portion along the intermittent Green Spring Creek. The ponds are currently separated by an embankment that acts as a dam for the upper pond; the lower pond is the result of another informal embankment downstream.

An historic homestead and associated outbuildings are located just south of the upper pond, and an active strawberry farm is located just north of the lower pond. A small patch of Valley needlegrass grassland is located on the embankment for the lower pond. The heavily trafficked Green Valley Road runs through the northern portion of the main Study Area; it is bordered by annual grasslands and oak woodland to the west, and serpentine chaparral to the east. An extensively manipulated terrace that has historically been used for the growing, harvesting, and sale of strawberries (and perhaps other crops) is located in the northeastern portion of the Study Area, south and west of Green Valley Road. However, this area is currently fallow, and the terrace area is primarily comprised of non-native annual grassland species and an unvegetated sandy/gravely parking area. To the west and south of this terrace, a relatively steep slope drops down to a poorly maintained dirt road. A very disturbed/open chaparral community occupies much of this slope, and a number of rock outcrops are located just above the dirt road. In addition to the ponds and intermittent Green Spring Creek, a number of seasonal wetland swales, seeps, small depressional wetlands, and ephemeral drainages are scattered throughout the Study Area. Elevations within the on-site portion of the Study Area range from 820 feet to 1,240 feet above mean sea level.

Off-site infrastructure study areas range between a low of about 670 feet above mean sea level for the northwestern off-site area to about 1,050 for off-site area adjacent to the main portion of the Study Area. The northwestern off-site area is primarily comprised of a gravel access road with adjacent annual brome grassland. The northern portion of this area includes a reach of the intermittent Alleghany Creek and its adjacent Fremont cottonwood riparian woodland. An area of residential landscaping also occurs within this off-site area. The northwestern off-site area includes a lift station site on the north/west side of Loch Way. This urban area supports a pump station, a small area of interior live oak woodland just east of the lift station, and a short reach of Alleghany Creek with associated Fremont cottonwood riparian woodland on the eastern side.

The southwestern off-site area is almost entirely comprised of a transmission line corridor. An asphalt recreational trail with broad decomposed granite shoulders winds through the center, and the remainder is largely comprised of an annual brome grassland. The exception is an area of interior live oak woodland in the southern portion of this off-site area.

4.1 Soils

The Natural Resources Conservation Service has mapped five soil mapping units within the Study Area, as shown on **Figure 3** (NRCS 2024):

- (AwD) Auburn silt loam, 2 to 30% slopes;
- (AxD) Auburn very rocky silt loam, 2 to 30% slopes;
- (AxE)Auburn very rocky silt loam, 30 to 50% slopes;
- (PrD) Placer diggings; and
- (SaF) Serpentine rock land

The on-site portion of the Study Area is dominated by AwD and AxD, with SaF occurring along Green Valley Road in the eastern portion of the on-site area. The offsite infrastructure areas support all types except for SaF. Unit SaF is comprised of serpentine rocks, and units AwD, AxD, and AxE are comprised of material weathered from metabasic or metasedimentary rock such as amphibolite schist, greenstone schist, or diabase.

4.2 Aquatic Resources

The Study Area supports seven types of aquatic features: seeps, seasonal wetland swales, seasonal wetlands, ponds, intermittent drainage (Green Spring Creek and Allegheny Creek), ephemeral drainage, and roadside ditch (**Figure 4 and Table 1**). A description of aquatic resources mapped within the Study Area follows.

Table 1. Aquatic Resources in the Study Area

Resource Type	Amount in On-Site Study Area (acres)	Amount in Off-Site Study Areas (acres)	Total in Study Area (acres)
Wetlands			
Seep	0.39	–	0.39
Seasonal Wetland Swale	2.14	0.02	2.16
Seasonal Wetland	0.03	–	0.03
Wetlands Total	***2.56***	***0.02***	***2.58***
Other Waters			
Ephemeral Drainage	0.24	0.01	0.25
Intermittent Drainage	0.81	0.08	0.89
Pond	3.80	–	3.80
Roadside Ditch	0.023	–	0.02
Other Waters Total	***4.88***	***0.09***	***4.96***
GRAND TOTAL	**7.44**	**0.11**	**7.54**

Summation errors may occur due to rounding.

4.2.1 Seeps

Four seeps totaling approximately 0.39 acre occur within the on-site portion of the Study Area. Plant species found in these areas include Baltic rush (*Juncus balticus*), Mediterranean barley, perennial rye (*Festuca perennis*), and spiny-fruited buttercup (*Ranunculus muricatus*).

4.2.2 Seasonal Wetland Swales

About 2.16 acres of seasonal wetland swales are present in the Study Area. These features are dominated by perennial ryegrass, Mediterranean barley, curly dock (*Rumex crispus*), tall flat sedge (*Cyperus eragrostis*), and spiny-fruited buttercup.

4.2.3 Seasonal Wetlands

Two depressional seasonal wetlands totaling 0.03 acre are present within the Study Area. At the time these features were mapped, vegetation within was sparse and consisted of slender popcorn flower (*Plagiobothrys stipitatus* ssp. *micranthus*), curly dock, Mediterranean barley, and perennial rye.

4.2.4 Ponds

Two ponds totaling about 3.80 acre occur within the Study Area, behind historic impoundments of Green Spring Creek. The lower (downstream) pond appears to be perennial, and the upper (upstream) pond is intermittent in many years. In most years, both appear to fill during the winter. The western pond is

unvegetated in the center due to the depth of the water. The fringes of the western pond and much of the eastern pond support common tule (*Schoenoplectus acutus* var. *occidentalis*), cattails (*Typha* species), creeping spike rush (*Eleocharis macrostachya*), water pepper (*Persicaria hydropiper*), and seep spring monkey flower (*Erythranthe guttata*), among many others.

4.2.5 Intermittent Drainages

The Study Area includes portions of two intermittent drainages, Green Spring Creek, which flows through the northeastern portion of the on-site Study Area, and Allegheny Creek, which flows into and out of the southwestern off-site area along the EID easement. Green Spring Creek is primarily unvegetated due to the scouring effects of water. Vegetation that occurs along the fringes of Green Spring Creek is similar to that in the on-site ponds. The area of Green Spring Creek within the Study Area is about 0.81 acre.

Allegheny Creek is similar to Green Spring Creek. It is entirely unvegetated within the channel, has a small cobble/large gravel substrate, flows for much of the winter and into the spring, but is dry during the summer months. Adjacent vegetation is similar to that around the ponds. The area of Allegheny Creek within the Study Area is about 0.08 acre.

4.2.6 Ephemeral Drainages and Roadside Ditches

A number of features within the Study Area experience ephemeral flow. These include seven ephemeral drainages (totaling about 0.25 acre) and 16 roadside ditches (totaling about 0.03 acre). These features only convey stormwater flow during and immediately following storm events. As such, they are primarily unvegetated due to the scouring effects of water. Any vegetation that does occur is typically comprised of ruderal upland plant species or species consistent with the surrounding upland vegetation community.

4.3 Terrestrial Vegetation Communities

The 314-acre Study Area supports nine vegetation communities. **Figure 5** and **Table 2** summarize the acreages of each community within the Study Area, and a description of each follows.

Table 2. Vegetation Communities in the Study Area

Community Type	Amount in On-Site Area (acres)	Amount in Off-Site Areas (acres)	Total Amount in Study Area (acres)
Annual Brome Grassland	167.3	7.3	174.6
Armenian Blackberry Bramble	0.6	<0.1	0.6
Eucalyptus Woodland	0.1	–	0.1
Oak Woodland[1]	109.1	1.4	110.5
Valley Needlegrass Grassland	<0.1	–	<0.1
Serpentine Chaparral	0.8	1.0	1.8
Fremont Cottonwood Riparian Woodland	–	0.1	0.1
Strawberry Field (agriculture)	1.0	–	1.0

Table 2. Vegetation Communities in the Study Area

Community Type	Amount in On-Site Area (acres)	Amount in Off-Site Areas (acres)	Total Amount in Study Area (acres)
Disturbed	0.2	0.6	0.8
Ruderal	6.8	0.3	7.1
Urban	7.2	2.5	9.7

[1]Oak woodland acreages showing in this table do not include areas that overlap with aquatic resources. As such, the total amount of oak woodland may differ from the total identified in **Attachment H**.

4.3.1 Annual Brome Grassland

The annual brome grasslands are dominated by rip-gut brome, medusahead, and soft chess. Other common species include yellow star-thistle (*Centaurea solstitialis*), Mediterranean barley (*Hordeum marinum*), and split-leaf geranium (*Geranium dissectum*). Some patches of the annual brome grassland support a diverse suite of native forbs, including hyacinth brodiaea (*Triteleia hyacinthina*), Valley sky lupine (*Lupinus nanus*), blue dicks (*Dichelostemma capitatum*), and field popcorn flower (*Plagiobothrys fulvus*).

4.3.2 Armenian Blackberry Bramble

The Armenian blackberry (*Rubus armeniacus*) brambles are monocultures of Armenian blackberry, as this species forms dense patches that shade out all other vegetation. These brambles occur in the general vicinity of the ponds.

4.3.3 Eucalyptus Woodland

A Eucalyptus woodland occurs along the south side of Green Valley Road in the northwestern portion of the Study Area. This woodland is a monoculture of blue gum (*Eucalyptus globulus*), as these trees produce chemicals that have allelopathic effects on other plant species.

4.3.4 Oak Woodland

Oak woodlands are prevalent throughout the Study Area. These are comprised primarily of valley oak (*Quercus lobata*), interior live oak (*Quercus wislizenii*), and blue oak (*Quercus douglasii*). The understory is dominated by dogtail grass (*Cynosurus echinatus*) as well as plant species typical of the surrounding annual brome grasslands. A small component of the oak woodland along a seasonal wetland swale just south of Verde Valle Lane is riparian in nature, and supports arroyo willow (*Salix lasiolepis*), blue elderberry (*Sambucus nigra* ssp. *cerulea*) and Armenian blackberry in addition to the oaks.

4.3.5 Serpentine Chaparral

The serpentine (or deer brush) chaparral is dominated by deer brush (*Ceanothus integerrimus var. integerrimus*), buck brush (*Ceanothus cuneatus var. cuneatus*), and grey pine (*Pinus sabiniana*). Other shrubs

occurring frequently in this community include toyon (Heteromeles arbutifolia), hoary coffeeberry (*Frangula californica subsp. tomentella*), and hollyleaf redberry (*Rhamnus ilicifolia*). Species occurring frequently in the understory include soft chess, false brome (*Branchypodium distachyon*), woolly sunflower (*Eriophyllum lanatum var. grandiflorum*), Ramm's madia (*Jensia rammii*), Q-tips (*Micropus californicus*), silverpuffs (*Uropappus lindleyi*), small-flower catchfly (*Silene gallica*), strigose lotus (*Acmispon strigosus*), and chaparral clarkia (*Clarkia affinis*).

4.3.6 Fremont Cottonwood Riparian Woodland

The Fremont cottonwood riparian woodland has a canopy dominated by Fremont cottonwood (*Populus fremontii*), black willow (*Salix gooddingii*) and arroyo willow. The understory is almost entirely comprised of Armenian blackberry.

4.3.7 Strawberry Field

A field in the northern portion of the Study Area is annually planted with commercial strawberry plants (*Fragaria* × *ananassa*) that produce strawberries sold at a stand on the north side of Green Valley Road. During the growing and harvest season, this field is heavily maintained, and almost entirely comprised of cultivated strawberry plants. During the fall and winter, the field is allowed to go fallow and various weedy non-native forbs colonize the area.

4.3.8 Ruderal

An area of ruderal vegetation is located in the northeast portion of the Study Area, along Green Valley Road. This area has been extensively manipulated by several uses within the past decade, including growing, harvesting, and sale of strawberries, blackberries, and potentially other crops; stockpiling of soil; and grading/redistribution of the soil piles. As a result, the area is primarily comprised of non-native annual grassland species with a few scattered shallow depressions that support mesic vegetation.

4.3.9 Disturbed and Urban

Disturbed and urban areas are comprised predominantly of impermeable surfaces (pavement, buildings, etc.), regularly maintained dirt roadways, or areas of maintained landscaping adjacent to residences. These areas generally do not support special-status species habitat, apart from foraging perches for raptors or possibly but unlikely, nesting in landscape trees.

4.3.10 Valley Needlegrass Grassland

A small patch (0.031 acre) of Valley needlegrass (*Nasella pulchra*) (also known as purple needlegrass) grassland is present on the dam of the western-most pond. In this area, Valley needlegrass comprises approximately 80% cover, and is interspersed with teasel (*Diplacus fullonium*), Klamath weed (*Hypericum*

perforatum), slender milkweed (*Asclepias fascicularis*), elegant brodiaea (*Brodiaea elegans*), and Baltic rush. Valley needlegrass grassland is considered by CDFW to be a "Sensitive Natural Community" (CDFW 2021).

5.0 RESULTS

Table 3 provides a list of special-status species that were evaluated, including their listing status, habitat associations, and their potential to occur in the Study Area. The following criteria were used to determine each species' potential for occurrence on the site:

- Present: Species occurs on the site based on CNDDB records, and/or was observed on the site during field surveys.
- High: The site is within the known range of the species and suitable habitat exists.
- Moderate: The site is within the known range of the species and very limited suitable habitat exists.
- Low: The site is within the known range of the species and there is marginally suitable habitat, or the species was not observed during protocol-level surveys conducted on-site.
- Absent/No Habitat Present: The site does not contain suitable habitat for the species, the species was not observed during protocol-level surveys conducted on-site, or the site is outside the known range of the species.

Figure 2 shows the general locations of CNDDB plant and wildlife occurrences within the nine quad area studied for the Project. Below is a discussion of all special-status plant and animal species with potential to occur in the Study Area.

Table 3. Special-Status Species Potential for Occurrence within the Generations at Green Valley Study Area

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Plants				
Allium jepsonii Jepson's onion	--	CRPR 1B.2	Prefers cismontane woodland or lower montane coniferous forests associated with serpentine soils or volcanic slopes from 985 and 4,330 ft.	**Low.** Suitable habitat is present within the serpentine chaparral; however, this species was not found on-site during protocol-level surveys. Surveys of off-site infrastructure areas will be completed during the appropriate blooming period in 2024.
Balsamorhiza macrolepis Big-scale balsamroot	--	CRPR 1B.2	Occurs in chaparral, cismontane woodland, and valley and foothill grasslands between 150 and 5,100 ft. Often associated with serpentine soils.	**Low.** Suitable habitat is present throughout the Study Area; however, this species was not found on-site during protocol-level surveys. Surveys of off-site infrastructure areas will be completed during the appropriate blooming period in 2024.
Calystegia stebbinsii Stebbins' morning glory	FE	CE, CRPR 1B.1	Openings in chaparral and cismontane woodland, often on Gabbro soils between 605 and 3,575 feet.	**Low.** Marginally suitable habitat is present due to the lack of gabbro soils; however, this species was not found on-site during protocol-level surveys. Surveys of off-site infrastructure areas will be completed during the appropriate blooming period in 2024.
Carex xerophila Chaparral sedge	--	CRPR 1B.2	Chaparral, cismontane woodland, and lower coniferous forests on Gabbro and serpentine soils between 1,445 and 2,525 feet.	**No Habitat Present.** The Study Area is outside of the elevational range of the species.
Ceanothus roderickii Pine Hill ceanothus	FE	CR, CRPR 1B.1	Foothill chaparral and cismontane woodland associated with Gabbro soils of the Pine Hill formation between 805 and 3,575 feet.	**No Habitat Present.** Gabbro soils do not occur within the Study Area.

Table 3. Special-Status Species Potential for Occurrence within the Generations at Green Valley Study Area

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Chlorogalum grandiflorum Red Hills soaproot	--	CRPR 1B.2	Chaparral, cismontane woodland, and lower montane coniferous forests associated with Gabbro or serpentine soils at elevations between 800 feet and 5,500 feet.	**Low.** Suitable habitat is present within the serpentine chaparral; however, this species was not found on-site during protocol-level surveys. Surveys of off-site infrastructure areas will be completed during the appropriate blooming period in 2024.
Crocanthemum suffrutescens Bisbee Peak rush rose	--	CRPR 3.2	Burned or disturbed areas in chaparral, often on Gabbro or Ione soils at elevations between 245 and 2,200 feet.	**Low.** Suitable habitat is present in the serpentine chaparral; however, this species was not found on-site during protocol-level surveys. Surveys of off-site infrastructure areas will be completed during the appropriate blooming period in 2024.
Downingia pusilla Dwarf downingia	--	CRPR 2B.2	Valley and foothill grassland (mesic) and vernal pools.	**Low.** Marginally Suitable habitat is present within the seasonal wetlands; however, this species was not found on-site during protocol-level surveys. Surveys of off-site infrastructure areas will be completed during the appropriate blooming period in 2024.
Eryngium pinnatisectum Tuolumne button-celery	--	CRPR 1B.2	Found in vernal pools and other mesic areas in cismontane woodland and lower montane coniferous forests between 230 and 3,000 ft.	**Low.** Suitable habitat is present within the seasonal wetlands, seeps, and seasonal wetland swales; however, this species was not found on-site during protocol-level surveys. Surveys of off-site infrastructure areas will be completed during the appropriate blooming period in 2024.
Fremontodendron decumbens Pine Hill flannelbush	FE	CR, CRPR 1B.2	Foothill chaparral and cismontane woodland associated with rocky serpentine and Gabbro soils from 1,395 to 2,495 feet.	**No Habitat Present.** The Study Area is outside of the elevational range of the species.

Table 3. Special-Status Species Potential for Occurrence within the Generations at Green Valley Study Area

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Galium californicum ssp. *sierrae* El Dorado bedstraw	FE	CR, CRPR 1B.2	Foothill chaparral, cismontane woodland, and lower montane coniferous forest. Found on Gabbro soils between 330 and 1,920 feet.	**No Habitat Present.** Gabbro soils do not occur within the Study Area.
Gratiola heterosepala Boggs Lake hedge-hyssop	--	CE, CRPR 1B.2	Vernal pools and margins of lakes/ponds on clay soils (35' - 7,790').	**No Habitat Present.** The seasonal wetlands within the Study Area do not have sufficient hydrology for this species.
Juncus leiospermus var. *ahartii* Ahart's dwarf rush	--	CRPR 1B.2	Edges of vernal pools and other seasonally ponded features from 100 to 750 ft.	**No Habitat Present.** The Study Area is outside of the elevational range of the species.
Legenere limosa Legenere	--	CRPR 1B.1	Vernal pools and other seasonally ponded features between 5 and 2,885 ft.	**No Habitat Present.** The seasonal wetlands within the Study Area do not have sufficient hydrology for this species.
Navarretia myersii ssp. myersii Pincushion navarretia	--	CRPR 1B.1	Vernal pools and other mesic areas between 65 and 1,085 ft.	**Low.** Marginally Suitable habitat is present; however, this species was not found on-site during protocol-level surveys. Surveys of off-site infrastructure areas will be completed during the appropriate blooming period in 2024.
Orcuttia tenuis Slender Orcutt grass	FT	CE, CRPR 1B.1	Vernal pools and other seasonally ponded features between 115 and 5,775 ft.	**No Habitat Present.** The seasonal wetlands within the Study Area do not have sufficient hydrology for this species.
Orcuttia viscida Sacramento Orcutt grass	FE	CE, CRPR 1B.1	Vernal pools between 100 and 330 ft.	**No Habitat Present.** The seasonal wetlands within the Study Area do not have sufficient hydrology for this species.
Packera layneae Layne's ragwort	FT	CR, CRPR 1B.2	Foothill chaparral and cismontane woodland on serpentine or Gabbro soils between 655 and 3,560 ft.	**Low.** Suitable habitat is present within the serpentine chaparral; however, this species was not found on-site during protocol-level surveys. Surveys of off-site infrastructure areas will be completed during the appropriate blooming period in 2024.

Table 3. Special-Status Species Potential for Occurrence within the Generations at Green Valley Study Area

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Sagittaria sanfordii Sanford's arrowhead	--	CRPR 1B.2	Emergent marsh habitat, typically associated with drainages, canals, or irrigation ditches from sea level to 2,135 feet.	**Low.** Suitable habitat is present around the edges of the ponds and Green Spring Creek; however, this species was not found on-site during protocol-level surveys. Surveys of off-site infrastructure areas will be completed during the appropriate blooming period in 2024.
Wyethia reticulata El Dorado County mule ears	--	CRPR 1B.2	Foothill chaparral, cismontane woodland, and lower montane coniferous forest. Found on Gabbro soils of the Pine Hill Formation from 605 to 2,065 feet.	**No Habitat Present.** Gabbro soils do not occur within the Study Area.
Invertebrates				
Bombus crotchii Crotch bumble bee		CC	Migratory species found throughout California spring through early fall, and along the immediate central and southern California coast year-round. Nectars on numerous floral resources, but is dependent upon milkweed (Asclepias species) plants as its exclusive larval host. Requires diverse floral resources with interspersed milkweed plants during the dispersal and breeding season (spring through fall).	**High.** The Study Area provides suitable nesting and foraging habitat for this species.
Bombus occidentalis Western bumble bee			Meadows and grasslands with blended floral resources are the appropriate habitat for this species. Historically known throughout the mountains and northern coast of California, but now largely confined to high elevation sites and a small handful of records on the northern California coast.	**No Habitat Present.** The Study Area is outside of the current range of this species (CDFW 2023a). There is one CNDDB record within the 9-quad area that includes the Study Area, recorded in 1976; this record, a collected specimen, is from an unknown specific location near Pilot Hill. There are no other verified, more recent records for El Dorado County or eastern Sacramento County in the Bumble Bee Watch database (BBW 2024).

Table 3. Special-Status Species Potential for Occurrence within the Generations at Green Valley Study Area

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Branchinecta lynchi Vernal pool fairy shrimp	FT	--	Vernal pools.	**No Habitat Present.** Seasonal wetlands do not have sufficient duration of inundation to support this species.
Danaus plexippus Monarch butterfly	FC	--	Migratory species found throughout California spring through early fall, and along the immediate central and southern California coast year-round. Nectars on numerous floral resources but is dependent upon milkweed (*Asclepias* species) plants as their exclusive larval host. Requires diverse floral resources with interspersed milkweed plants during the dispersal and breeding season (spring through fall).	**High.** Milkweed plants in the Study Area provide habitat for the larval stage of this species.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	FT	--	Dependent upon elderberry plant as primary host species.	**No Habitat Present.** The Study Area is outside of the range of the species. The USFWS 2023 5-year review for this species states that the species' range is below 500 feet in elevation, which is below the lowest elevation on-site.[1] Seven elderberry shrubs are present in the Study Area, with the lowest elevation shrub occurring at about 980 feet above mean sea level.
Lepidurus packardi Vernal pool tadpole shrimp	FE	--	Vernal pools.	**No Habitat Present.** Seasonal wetlands do not have sufficient duration of inundation to support this species.

[1] Although different ranges for VELB have been proposed in the past, the current presumed range relies only on verifiable sightings or specimens of adult VELB (USFWS 2019). Both subspecies of the elderberry longhorn beetle, the rare Desmocerus californicus dimorphus, and the common Desmocerus californicus californicus, have exit holes that are indistinguishable from one another (USFWS 2023), so exit holes alone are not a good indicator of presence. The CNDDB lists 18 presumed extant occurrences of VELB within the nine quad area studied for the Project, with six of those occurrences having observations of adults. None of the observations of adults are in El Dorado County, and the highest elevation of the 18 presumed extant observations is 640 feet. The two closest observations of adults are about 5.5 miles to the west/northwest of the northwestern off-site area (Occurrences #302 and #303), both of which are on the west shore of Folsom Reservoir (CNDDB 2024).

Table 3. Special-Status Species Potential for Occurrence within the Generations at Green Valley Study Area

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Fish				
Oncorhynchus mykiss irideus Steelhead – Central Valley DPS (pop 11)	FT	--	Sacramento and San Joaquin rivers and their tributaries.	**No Habitat Present.** No portion of the Sacramento, San Joaquin, or Cosumnes Rivers present in the Study Area. This species requires clear, oxygen-rich streams and rivers, which do not occur on-site.
Hypomesus transpacificus Delta smelt	FT	CE	Adults are found in the brackish open surface waters of the Delta and Suisun Bay. Though spawning has never been observed, it is believed to occur in tidally influenced sloughs and drainages on the freshwater side of the mixing zone.	**No Habitat Present.** No tidally influenced sloughs or drainages are present within the Study Area.
Amphibians				
Ambystoma californiense California tiger salamander	FT	CT, CSC	Breeds in deep seasonal wetlands, vernal pools, and ponds or other deeply ponded wetlands and uses gopher holes and ground squirrel burrows in adjacent grasslands for upland refugia/foraging habitat.	**Absent/No Habitat Present.** The Study Area is outside of the range of this species. The current range of California tiger salamander does not extend into El Dorado County (CDFW 2020). A habitat assessment was completed in 2013 at the request of the landowner at the time (see **Attachment G**). The 2013 habitat assessment noted that the site is not within the documented range of the species. Madrone agrees with the findings of the 2013 habitat assessment. Because the site is outside of the current species range, there is no habitat in the Study Area.

Table 3. Special-Status Species Potential for Occurrence within the Generations at Green Valley Study Area

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Rana boylii Foothill yellow-legged frog – South Sierra DPS	FE	CE	Requires partially shaded, clear rocky streams at low to moderate elevations in areas of chaparral, open woodland, and forest.	**Low.** A foothill yellow-legged frog population was recently (2023) documented in Sweetwater Creek approximately 1.5 miles north of the Study Area. Both Green Spring Creek and Allegheny Creek are ephemeral and do not provide ideal habitat for the species. Green Spring Creek is too heavily grazed and Allegheny Creek contains too dense of a riparian canopy to provide acceptable habitat for foothill yellow-legged frog. However, the species may use the two creeks to travel between suitable habitats in the area.
Rana draytonii California red-legged frog	FT	CSC	Breeds in permanent to semi-permanent aquatic habitats including lakes, ponds, marshes, creeks, and other drainages.	**Absent.** The two onsite ponds and a seep within the onsite Study Area represent potential breeding habitat for CRLF. Protocol-level surveys conducted in 2023 did not detect the species. These surveys are valid for two years. The species may use Green Spring Creek and Allegheny Creek as migration corridors.
Spea hammondi Western spadefoot	PT	CSC	Breeds in vernal pools, seasonal wetlands and associated swales. Forages and aestivates in adjacent grasslands.	**No Habitat Present.** Seasonal wetlands do not have sufficient duration of inundation to support this species.
Reptiles				
Actinemys marmorata Northwestern pond turtle	PT	CSC	Ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.	**Present.** The two ponds within the Study Area are inhabited by northwestern pond turtles. Northwestern pond turtles may also use Green Spring Creek to travel between habitats.
Phrynosoma blainvillii Blainville's (Coast) horned lizard	--	CSC	Diverse habitat associations, but normally a low land species associated with sandy scrub habitat.	**Low.** Roadsides, openings in the deer brush chaparral, and the ruderal habitat

Table 3. Special-Status Species Potential for Occurrence within the Generations at Green Valley Study Area

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
				in the northeastern portion of the Study Area provide marginal habitat for this species.
Thamnophis gigas Giant garter snake	FT	CT	Occurs in freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	**No Habitat Present.** The Study Area is outside of the range of the species.
Birds				
Accipiter atricapillus American goshawk	--	CSC	Nests in mature and old-growth forest stands that include a broad range of conifer and conifer-hardwood types above approximately 2,000 feet in elevation.	**No Habitat Present.** The Study Area is outside of the elevational range for this species.
Agelaius tricolor Tricolored blackbird	--	CT, CSC	Colonial nester in dense vegetation, such as cattails, bulrush, or blackberries associated with marsh habitats.	**High.** The cattails and tules in the ponds and Armenian blackberry brambles represent potential nesting habitat, and surrounding grasslands provide potential foraging habitat for this species.
Ammodramus savannarum Grasshopper sparrow	--	CSC	Typically found in expansive short to middle-height, moderately open grasslands with scattered shrubs or other song perches.	**Low.** The annual brome grassland is marginally suitable habitat for this species due to the absence of scattered shrubs.
Aquila chrysaetos Golden eagle	--	CFP	Forages in open areas including grasslands, savannahs, deserts, and early successional stages of shrub and forest communities. Nests in large trees and cliffs.	**High.** Large trees on-site provide suitable nesting habitat, and the annual brome grassland is suitable foraging habitat.
Athene cunicularia Burrowing owl	--	CSC	Nests in abandoned ground squirrel burrows associated with open grassland habitats.	**Low.** The Study Area is outside of the breeding range of this species, but it could use the site for wintering .
Buteo swainsoni Swainson's hawk	--	CT	Nests in large trees, preferably in riparian areas. Forages in fields, cropland, irrigated pasture, and grassland near large riparian corridors.	**Low.** The Study Area is outside of the species' generally accepted range. Although it could fly through the area, the species is not expected to nest or forage on-site with much frequency.

Table 3. Special-Status Species Potential for Occurrence within the Generations at Green Valley Study Area

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FT	CE	Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, adjacent to slow-moving waterways, backwaters, or seeps.	**No Habitat Present.** The Study Area does not support deciduous riparian areas with dense, low-level or understory foliage, adjacent to slow-moving waterways.
Elanus leucurus White-tailed kite	--	CFP	Open grasslands, fields, and meadows are used for foraging. Isolated trees in close proximity to foraging habitat are used for perching and nesting.	**High.** Trees on-site provide suitable nesting habitat, and the annual brome grassland is suitable foraging habitat.
Haliaeetus leucocephalus Bald eagle	FD	CE	Nest in large trees within 1 mile of lakes, rivers, or larger streams.	**High.** The ponds provide suitable foraging habitat; however, the species is unlikely to nest on-site due to small size of available foraging habitat.
Icteria virens Yellow-breasted chat	--	CSC	Occupies early-successional riparian habitats with well-developed shrub layer and open canopy along streams, creeks, sloughs, and rivers.	**Low.** Riparian habitat within the Study Area provides marginal habitat for this species.
Lanius ludovicianus Loggerhead shrike	--	CSC	Occurs in open areas with sparse trees, shrubs, and other perches.	**Low.** Study Area provides suitable perching and foraging habitat, but there are few records for the species in the vicinity of the Project site (Cornell Lab 2024a).
Laterallus jamaicensis coturniculus California black rail	--	CT, CFP	Nests and forages in salt, brackish, and fresh marshes with abundant vegetative cover.	**Moderate.** Marsh vegetation around the edges of the ponds provide marginally suitable habitat for the species due to the small patch sizes.
Progne subis Purple martin	--	CSC	Nests in tall bridges and overpasses near water and open areas.	**No Habitat Present.** No tall bridges or overpasses are present within the Study Area.
Riparia riparia Bank swallow	--	CT	Colonial nester preferring vertical cliffs and banks with fine textured/sandy soils associated with riparian zones along streams, rivers, and lakes.	**No Habitat Present.** Suitable vertical cliffs and banks do not occur within the Study Area.
Setophaga petechia Yellow warbler	--	CSC	Occupies riparian vegetation proximate to water along streams and in wet meadows. This species no	**Moderate.** Species could migrate through the Study Area and take cover in

Table 3. Special-Status Species Potential for Occurrence within the Generations at Green Valley Study Area

Scientific Name (Common Name)	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
			longer breeds in the central valley but occurs as a common migrant in the fall and winter months.	vegetation along Green Spring Creek and Allegheny Creek and the on-site ponds.
Mammals				
Antrozous pallidus Pallid bat	--	CSC, WBWG H	Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, exfoliating Ponderosa pine and valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards), and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied as well as vacant buildings.	**High.** Suitable roosting habitat for this species is present in tree hollows and under exfoliating bark on trees throughout the site.
Bassariscus astutus raptor Northern California ringtail	--	FP	Occurs in riparian habitats, forest brush, and shrublands in association with rocky areas. Ringtail is known to is known to nest in rock recesses, hollow trees, logs, snags, and abandoned burrows.	**No Habitat Present.** Proximity of **r**iparian habitats in the off-site areas to existing urban development do not provide suitable habitat for this species,
Corynorhinus townsendii townsendii Townsend's big-eared bat	--	CC, WBWG H	Roosts in caves and cave analogues, such as abandoned mines, buildings, bridges, rock crevices and large basal hollows of coast redwoods and giant sequoias. Extremely sensitive to human disturbance.	**Moderate.** The abandoned buildings just south of the pond represent marginally suitable roosting habitat for this species.
Lasionycteris noctivagans Silver-haired bat	--	WBWG M	Roosts in abandoned woodpecker holes, under bark, and occasionally in rock crevices. It forages in open wooded areas near water features.	**High.** Suitable roosting habitat for this species is present in tree hollows and under exfoliating bark on trees throughout the site.
Lasiurus blossevillii Western red bat	--	CSC, WBWG H	Require large leaf trees such as cottonwoods, willows, and fruit/nut trees for daytime roosts. Often associated with wooded habitats that are protected from above and open below. Often found in association with riparian corridors. Require open space for foraging.	**High.** Trees scattered throughout the site are suitable roosting habitat for this species.

Table 3. Special-Status Species Potential for Occurrence within the Generations at Green Valley Study Area

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Lasiurus cinereus Hoary bat	--	WBWG M	Roosts primarily in foliage of both coniferous and deciduous trees at the edges of clearings (WBWG 2022).	**High.** Trees scattered throughout the site are suitable roosting habitat for this species.
Pekania pennanti Fisher	--	CSC	Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.	**No Habitat Present.** Study Area lacks mature, dense forest habitat.
Taxidea taxus American badger	--	CSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	**Low.** The annual brome grasslands and oak woodlands provide marginally suitable habitat for American badger due to the surrounding residential development and limited occurrences in the vicinity.

Status Codes:

CC – CDFW Candidate for Listing
CE - CDFW Endangered
CFP - CDFW Fully Protected
CRPR - California Rare Plant Rank
CSC - CDFW Species of Concern
CT - CDFW Threatened
FC - Federal Candidate for Listing
FD - Federally Delisted
FT - Federally Threatened
PT – Proposed for Federal Listing as Threatened
WBWG M - Western Bat Working Group Medium Threat Rank
WBWG H - Western Bat Working Group High Threat Rank

5.1 Plants

5.1.1 Jepson's Onion

Jepson's onion (*Allium jepsonii*) is not listed under the federal or California Endangered Species Acts; however, it is designated as a CRPR List 1B.2 plant. Jepson's onion is found in chaparral, cismontane woodland, and lower montane coniferous forests on serpentine or volcanic soils. It is a bulbiferous perennial, and it blooms from April through August at elevations from 980 feet to 4,330 feet (CNPS 2022).

The chaparral on serpentine soils in the northeastern portion of the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in May and June when this species would have been in bloom. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.1.2 Big-Scale Balsamroot

Big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*) is not federally or state-listed, but it is classified as a CRPR List 1B.2 plant. It is a perennial herbaceous species that occurs in chaparral, cismontane woodland and valley and foothill grasslands between 295 and 4,600 feet. Big-scale balsamroot blooms from March through June and may be found on serpentine soils, though it is known to grow on other soil types as well (CNPS 2022).

Upland communities throughout the Study Area provide suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in April, May, and June when this species would have been in bloom. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.1.3 Stebbins' Morning Glory

Stebbins' morning glory (*Calystegia stebbinsii*) is a federal and state-listed endangered species and is classified as a CRPR 1B.1 plant. It is a perennial rhizomatous herb that is found in openings in chaparral and cismontane woodland on serpentine or gabbroic soils. Stebbins' morning glory blooms from April to July at elevations from 600 feet to 3,600 feet (CNPS 2022).

The chaparral on serpentine soils in the northeastern portion of the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in May and June when this species would have been in bloom. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.1.4 Chaparral Sedge

Chaparral sedge (*Carex xerophila*) is not federally or state-listed, but it is classified as a CRPR List 1B.2 plant. It is a perennial herb that is found in chaparral, cismontane woodland, and lower coniferous forests on serpentine or gabbroic soils. Chaparral sedge blooms from March through June at elevations from 1,500 feet to 2,500 feet (CNPS 2022).

The chaparral on serpentine soils in the northeastern portion of the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in May and June when this species would have been identifiable. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.1.5 Pine Hill Ceanothus

Pine Hill ceanothus (*Ceanothus roderickii*) is listed as endangered under the federal Endangered Species Act, as a California rare species, and is classified as a CRPR List 1B.1 plant. Pine Hill ceanothus is a prostrate, low-growing shrub that is known primarily from Pine Hill in El Dorado County. The species occurs in chaparral and cismontane woodland with Gabbro or serpentine soils between 805 and 3,575 feet. It blooms from April to June.

The chaparral on serpentine soils in the northeastern portion of the Study Area provides marginally suitable habitat for this species, as it is largely tightly restricted to the Pine Hill Formation. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in May when this species was observed in bloom at another site in the vicinity. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.1.6 Red Hills Soaproot

Red Hills soaproot (*Chlorogalum grandiflorum*) is not federally or state-listed, but it is classified as a CRPR List 1B.2 plant. Red Hills soaproot occurs in chaparral, cismontane woodland, and lower montane coniferous forest on gabbro, serpentine, and other soils. This perennial blooms from May to June and is found from approximately 800 feet to 3,300 feet (CNPS 2022).

Upland communities throughout the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in June when this species was observed in bloom on other nearby sites. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.1.7 Bisbee Peak Rush Rose

Bisbee Peak rush-rose (*Crocanthemum suffrutescens*) is not federally or state-listed, but it is classified as a CRPR List 3.2 plant. Bisbee Peak rush-rose occurs in burned or otherwise disturbed areas in chaparral often on Ione Formation or Gabbro soils, but also on other soils. This perennial blooms from April through August and is found from approximately 245 feet to 2,200 feet (CNPS 2022).

The chaparral on serpentine soils in the northeastern portion of the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in June when this species was observed in bloom on other nearby sites. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.1.8 Dwarf Downingia

Dwarf downingia (*Downingia pusilla*) is not federally or state-listed, but it is classified as a CRPR List 1B.2 plant. It is a diminutive annual herb that is strongly associated with vernal pools and other seasonally inundated features at elevations ranging from sea level to approximately 1,500 feet. Dwarf downingia is typically associated with areas that experience a moderate degree of disturbance, and it blooms from March to May (CNPS 2022).

The seasonal wetlands and seasonal wetland swales within the Study Area represent marginal habitat for this species. This species was not observed during the 2021 special-status plant survey of the Study Area, which was conducted in April, when this species was observed in bloom at other nearby sites. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.1.9 Tuolumne Button-Celery

Tuolumne button-celery (*Eryngium pinnatisectum*) is not federally- or state-listed, but it is classified as a CRPR List 1B.2 plant. This species occurs in mesic areas in cismontane woodlands and coniferous forests, as well as vernal pools. Tuolumne button-celery blooms from May through August and is found from approximately 300 feet to 3,000 feet (CNPS 2022).

Seasonal wetlands, seasonal wetland swales, seeps, and intermittent drainages throughout the Study Area provide suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted when the species would have been identifiable at least to genus. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.1.10 Pine Hill Flannelbush

Pine Hill flannelbush (*Fremontodendron decumbens*) is listed as endangered under the federal Endangered Species Act, as a California rare species, and is classified as a CRPR List 1B.2 plant. Pine Hill flannelbush is a sprawling, low-growing shrub that is known from Pine Hill in El Dorado County and potentially from an isolated population in Nevada County. The species favors foothill chaparral and cismontane woodland with rocky Gabbro or serpentine soils between 1,395 and 2,495 feet. It blooms from April to June.

The chaparral on serpentine soils in the northeastern portion of the Study Area provides marginally-suitable habitat for this species, as it is largely tightly restricted to the Pine Hill Formation. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species would have been in bloom. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.1.11 Pincushion Navarretia

Pincushion navarretia (*Navarretia myersii* ssp. *myersii*) is not federally or state-listed, but it is classified as a CRPR List 1B.1 plant. This annual herb is found in vernal pools and other mesic areas in annual grasslands on clay soils. Pincushion navarretia is found at elevations between approximately 65 feet and 1,100 feet and blooms from April through May (CNPS 2022).

The seasonal wetlands within the Study Area represent marginally suitable habitat for this species. This species was not observed during the 2021 special-status plant survey of the Study Area, which was conducted in April and May, when this species would have been in bloom. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.1.12 Layne's Ragwort

Layne's ragwort (*Packera layneae*) is a federally threatened species, a state rare species, and is classified as a CRPR List 1B.2 plant. It is a perennial herb found in rocky areas in chaparral and cismontane woodlands with serpentine or Gabbroic soils. Layne's ragwort blooms from April through August at elevations from 650 feet to 3,560 feet (CNPS 2022).

The chaparral on serpentine soils in the northeastern portion of the Study Area provides suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in late May when this species was in bloom at other sites in the vicinity. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.1.13 Sanford's Arrowhead

Sanford's arrowhead (*Sagittaria sanfordii*) is not federally or state-listed, but it is classified as a CRPR List 1B.2 plant. It generally occurs in shallow freshwater habitats associated with drainages, canals, and larger ditches that sustain inundation and/or slow-moving water into early summer. It is a perennial rhizomatous emergent species that blooms from May to October at elevations from sea level to 2,130 feet (CNPS 2022).

The ponds and Green Spring Creek within the Study Area provide suitable habitat for this species. This species was not observed during the 2021 protocol-level special status plant survey, which was conducted in June when this species was in bloom at other sites in the region. However, special-status plant surveys of off-site infrastructure areas have not been completed. There is a low likelihood that this species is present within the Study Area.

5.2 Sensitive Natural Communities

5.2.1 Valley Needlegrass Grassland

A 0.031-acre patch of Valley needlegrass (*Nasella pulchra*) grassland is present on the dam of the western-most (lower) pond. In this area, Valley needlegrass comprises approximately 80% cover, and is interspersed with teasel (*Diplacus fullonium*), Klamath weed (*Hypericum perforatum*), slender milkweed (*Asclepias fascicularis*), elegant brodiaea (*Brodiaea elegans*), and Baltic rush. CDFW considers Valley needlegrass grassland a "Sensitive Natural Community" (CDFW 2021).

5.3 Invertebrates

5.3.1 Crotch Bumble Bee

Crotch bumble bee (*Bombus crotchii*) is not federally listed but is a candidate for listing under CESA. This species has a limited distribution in southwestern North America. This species occurs primarily in California, including the Mediterranean region, Pacific Coast, West Desert, Great Valley, and adjacent foothills through most of southwestern California. It also occurs in Mexico (Baja California and Baja California Sur) (Williams et al. 2014) and has been documented in southwest Nevada, near the California border. This species was historically common in the Central Valley of California, but now appears to be absent from most of it, especially in the center of its historic range (Williams et al. 2014; Richardson et al. 2014). In California, *B. crotchii* inhabits open grasslands and scrub habitats.

All bumble bees have three basic requirements: suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the entirety of the colony period (spring, summer, and fall), and suitable overwintering sites for the queens. Nests are often located underground in abandoned holes made by ground squirrels, mice, and rats or occasionally abandoned bird nests (Osborne et al. 2008). Some species nest on the surface of the ground (in tufts of grass) or in empty cavities. Bumble bees that nest aboveground may require undisturbed areas with nesting resources such as grass and hay

to protect nests. Furthermore, areas with woody cover, or other sheltered areas provide bumble bees sites to build their nests (e.g., downed wood, rock walls, brush piles, etc.).

Bumble bees depend on the availability of habitats with a rich supply of floral resources that bloom continuously during the entirety of the colony's life. The queen collects nectar and pollen from flowers to support the production of her eggs, which are fertilized by sperm she has stored from mating the previous fall. As generalist foragers, bumble bees do not depend on any one flower type. They generally prefer flowers that are purple, blue or yellow; they are essentially blind to the color red. The plant families most commonly associated with Crotch bumble bee observations in California include Apocynaceae, Asteraceae, Boraginaceae, Fabaceae, and Lamiaceae (Xerces Society et al. 2018). Very little is known about hibernacula, or overwintering sites utilized by most bumble bees. Generally, bumble bees overwinter in soft, disturbed soil (Goulson 2010), under leaf litter or other debris (Williams et al. 2014), in abandoned holes made by fossorial mammals or occasionally in abandoned bird nests (Osborne at al 2008). Some species nest on the surface of the ground (in grassy tussocks) or in empty cavities (hollow logs, dead trees, under rocks, etc.). Queens most likely overwinter in small cavities just below or on the ground surface.

A bumble bee (*Bombus* sp.) was observed during the aquatic resource delineation of the site but was not identified to species level. The Study Area provides nesting and foraging habitat for Crotch bumble bee. The CNDDB lists one occurrence of this species within the nine quad area studied for this Project (Occurrence #290); a male Crotch bumble bee was observed in a vernal pool grassland area 16 miles to the southwest of the Study Area, just northeast of the Douglas Road/Sunrise Boulevard intersection in Sacramento County (CNDDB 2024). The Bumble Bee Watch database does not show any occurrences near the Study Area; the nearest recorded Crotch bumble bee sighting in the Bumble Bee Watch database is about 28 miles southwest of the Study Area in the Pocket area of Sacramento (BBW 2024). The iNaturalist database lists one research grade record near Pilot Hill, about 9 miles north of the Study Area, recorded in 2022 (iNaturalist 2024).

5.3.2 Monarch Butterfly

The monarch butterfly (*Danaus plexippus*) is a FESA candidate species. It is a large conspicuous species that occurs in North, Central, and South America; Australia; New Zealand; islands of the Pacific and Caribbean, and elsewhere (Malcolm and Zalucki 1993 in USFWS 2020). During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (*Asclepias* spp.), and larvae emerge after two to five days (Zalucki 1982 in USFWS 2020). Larvae develop over a period of 9 to 18 days, feeding on the milkweed and then pupate into chrysalis before eclosing 6 to 14 days later as an adult butterfly (USFWS 2020). Multiple generations of monarchs are produced during the breeding season, with most adult butterflies living approximately two to five weeks (USFWS 2020).

In California, monarchs continue to occupy and breed in areas near their overwintering groves along the California coast into northern Baja California throughout the year, and also disperse over multiple generations to occupy and breed throughout the state in the spring through fall (USFWS 2020). Migrating monarchs in western North America tend to occur more frequently near water sources such as rivers, creeks,

roadside ditches, and irrigated gardens (Morris et al. 2015 in USFWS 2020). Adult monarch butterflies require a diversity of blooming nectar resources during breeding and migration (spring through fall). Monarchs also need milkweed (for both oviposition and larval feeding) embedded within this diverse nectaring habitat.

This species was not observed in the Study Area during Project-related surveys. No CNDDB occurrences of this species are documented within the nine quad area studied for this Project (CNDDB 2024). In addition to milkweed present in the Study Area, the Western Monarch Milkweed Mapper (WMMM) shows occurrences of milkweed about two miles north of the on-site portion of the Study Area (most recently recorded in 2011; WMMM 2024). The WMMM also shows a record of a monarch about two-and-a-half miles south of the southwestern off-site area, south of U.S. 50 (recorded in 2017), and one occurrence of breeding monarch about two-and-a-half miles east of the southwestern off-site area (recorded in 2022) (WMMM 2024). The site is not proximate to any overwintering areas for the species (Xerxes Society 2024). The Study Area provides limited suitable egg-laying habitat for this species.

5.4 Amphibians

5.4.1 California Red-Legged Frog

California red-legged frog (*Rana draytonii*) is listed as threatened under the federal Endangered Species Act and is a CDFW Species of Special Concern. Habitat for this species is characterized by riparian vegetation associated with slow-moving water that is relatively deep (>0.7 meters). Emergent and edge vegetation requirements are highly variable and include willow (*Salix* sp.), cattails, and bulrushes (*Schoenoplectus* spp.) providing appropriate habitat (Jennings and Hayes 1994). Adults can be found in both ephemeral and perennial streams and ponds, though stable populations require permanent freshwater (salinity ≤4.5%) water sources for the larval life stage (Jennings and Hayes 1994). Riparian vegetation and mammal burrows near water sources also provide refuge to estivating adults (USFWS 1996). Adults may utilize mammal burrows, desiccation cracks on pond bottoms, or dense vegetation and debris piles when aquatic breeding habitat dries (Alvarez 2004). The Study Area is not within federally identified critical habitat for CRLF and there are no documented occurrences within three miles of the Study Area.

California red-legged frog was not observed during previous 2013 habitat assessment and 2016 surveys of the on-site area completed by Eric Hansen and Adam Johnson or during the 2023 surveys completed by Madrone. Potential aquatic breeding habitat is present within the Study Area in the two on-site ponds and within a seep (Seep-4 as shown in **Attachment F**). Green Spring Creek and Allegheny Creek within the Study Area represent suitable dispersal habitat for this species. The 2023 surveys of the ponds recorded predatory species such as American bullfrog (*Lithobates catesbeianus*), black bass (*Micropterus* sp.), bluegill (*Lepomis macrochirus*), Sacramento sucker (*Catostomus occidentalis*), red swamp crayfish (*Procambarus clarkia*), great egret (*Ardea alba*), great blue heron (*Ardea herodias*), racoon (*Procyon lotor*), north American river otter (*Lontra canadensis*), and valley garter snake (*Thamnophis sirtalis fitchi*). The presence of these species greatly reduces or eliminates the potential for CRLF to be present (Madrone 2024). Mosquitofish (*Gambusia affinis*), which may feed on CRLF tadpoles, and American bullfrog were both recorded during the 26 April 2021 site

assessment by Ms. Snider and Mr. Shaffer; American bullfrog was also recorded during the 7 May 2021 site assessment.

Protocol surveys for CRLF surveys conducted in 2016 and 2023 did not detect the species. It is presumed that CRLF is absent from the site.

5.4.2 Foothill Yellow-Legged Frog

The foothill yellow-legged frog (FYLF) – South Sierra distinct population segment (DPS) (*Rana boylii*) is federally and state listed as endangered. This species is a small- to medium-sized stream-dwelling frog with fully webbed feet and rough pebbly skin. Coloring of the species is highly variable but is usually gray, brown, olive, or reddish with brown-black flecking and mottling, which often matches the local substrate (CFGC 2020). The FYLF is a stream obligate species.

The historical range of FYLF extended from the Willamette River drainage in Oregon south through the Sierra Nevada Mountains to the Transverse Range, and down along the California Coast Range to at least the Upper San Gabriel River in Los Angeles County, California. The current distribution of FYLF generally follows the historical distribution of the species (FR Vol 86, No 246, pages 73914-73945). In its recent status determination for this species, the California Fish and Game Commission classified FYLF as having six unique, genetic clades (CFGC 2020). The six separate genetic clades are identified as the North Coast, North Feather, North Sierra, South Sierra, Central Coast, and South Coast. The Study Area is within the South Sierra clade, also known as the South Sierra DPS.

Both Green Spring Creek and Allegheny Creek flows are too irregular to provide suitable breeding habitat for FYLF. Additionally, Green Spring Creek within the Study Area is too heavily grazed to provide suitable habitat for FYLF, and Allegheny Creek contains a very dense canopy cover that the species does not prefer. The CNDDB lists three presumed extant records for this species within the nine quad area studied for the Project, the closest of which is about 1.3 miles north of the on-site portion of the Study Area in an intact riparian corridor along Sweetwater Creek, recorded in 2023 (Occurrence #273; CNDDB 2024). There is a low potential for FYLF to occasionally utilize Green Spring Creek and Allegheny Creek as dispersal corridors between suitable habitat.

5.5 Reptiles

5.5.1 Northwestern Pond Turtle

The northwestern pond turtle (*Actinemys marmorata*) is proposed for listing as threatened under FESA and is a CDFW Species of Special Concern. Favored habitats include streams, large rivers and canals with slow-moving water, aquatic vegetation, and open basking sites. Although this species must live near water, it can tolerate drought by burrowing into the muddy beds of dried drainages. This species feeds mainly on invertebrates such as insects and worms, but will also consume small fish, frogs, mammals and some plants.

Northwestern pond turtle predators include raccoons, coyotes, raptors, weasels, large fish, and bullfrogs. This species breeds from mid to late spring in adjacent open grasslands or sandy banks.

This species is present in both of the ponds within the Study Area. Several northwestern pond turtles were observed using the ponds during the 2023 California red-legged frog surveys. It is also presumed that northwestern pond turtles use Green Spring Creek as a migration corridor and may nest within the uplands adjacent to the on-site ponds. Off-site areas do not support suitable habitat for this species. The CNDDB lists 14 presumed extant occurrences within the nine quad area studied for the Project. The closest observations are about two miles to the west of the Study Area at a golf course, last observed in 2017 (Occurrence #1359), and about two miles to the south, in a drainage along Silva Valley Parkway, observed in 2012 (Occurrence #1646 (CNDDB 2024).

5.5.2 Coast (Blainville's) Horned Lizard

Coast (Blainville's) horned lizard (*Phrynosoma blainvillii*) is not federally or state-listed but is a CDFW Species of Special Concern. This species is a relatively large (to 105 mm in snout-vent length), dorsoventrally flattened, rounded lizard found historically from Redding, California, to Baja, Mexico (Jennings and Hayes 1994). This diurnal species can occur within a variety of habitats including scrubland, annual brome grassland, valley-foothill woodlands and coniferous forests, though it is most common along lowland desert sandy washes and chaparral (Stebbins and McGinnis 2012). In the Coast Ranges, it occurs from Sonoma County south into Baja California (CDFG 1988). It occurs from sea level to 8,000 feet above MSL and an isolated population occurs in Siskiyou County (Stebbins and McGinnis 2012).

Blainville's horned lizard is found in open microhabitats such as sandy washes with scattered shrubs or firebreaks in chaparral, where they forage for ants, small beetles and other insects (Jennings and Hayes 1994). Horned lizards (*Phrynosoma*) are native ant specialists and daily activities are centered on above-ground activity patterns of ants, with lizards active generally in mornings and later in the afternoon in the summer.

This species was not observed in the Study Area during Project-related surveys. Roadsides and openings in the deer brush chaparral and ruderal habitat in the northeastern portion of the Study Area provide marginal habitat for this species due to the level of disturbance. The CNDDB lists four presumed extant occurrences of Blainville's horned lizard within the nine quad area studied for the Project. The nearest observation (Occurrence #596) occurred in 1995 in gabbroic chaparral habitat approximately 2.7 miles east of the on-site portion of the Study Area on Pine Hill (CNDDB 2024). There is a low likelihood that this species may occur in the Study Area.

5.6 Birds

5.6.1 Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*), which is currently in decline throughout the state, is listed as threatened under the CESA. Historically, colonies were established in freshwater marshes dominated by cattails (*Typha* spp.) and bulrushes (*Scirpus* or *Schoenoplectus* spp.). More recently, this species has utilized non-native mustards (*Brassica* spp.), blackberries (*Rubus* spp.), thistles (*Circium* spp.), and mallows (*Malva* spp.) as nesting substrate. Since the 1980s, the largest colonies have been observed in the San Joaquin Valley in cultivated fields of triticale, which is a hybrid of wheat and rye often grown as livestock fodder. This current trend of nesting in active agricultural fields has further imperiled the species as nestlings typically have not fledged by the time the triticale is harvested.

This species was not observed in the Study Area during Project-related surveys. The CNDDB lists 21 presumed extant occurrences of tricolored blackbird nesting sites within the nine quad area studied for the Project. The closest observation, recorded in 1990 is about two miles to the west of the southwestern off-site area, adjacent to the Natomas Ditch in Folsom (CNDDB 2024). The cattails and tules in the ponds and Armenian blackberry brambles represent potential nesting habitat for tricolored blackbird and surrounding grasslands provide potential foraging habitat. There is a high likelihood that this species may occur in the Study Area.

5.6.2 Grasshopper Sparrow

The grasshopper sparrow (*Ammodramus savannarum*) is not listed pursuant to either the California or federal Endangered Species Acts, but it is designated as a species of special concern by CDFW. The grasshopper sparrow is an uncommon and local summer resident and breeder along the western edge of the Sierra Nevada and most coastal counties south to Baja California (Small 1994, Vickery 1996). This species generally inhabits moderately open grasslands and prairies with patchy bare ground and scattered shrubs (Vickery 1996). Grasshopper sparrows are more likely to occupy large tracts of habitat than small fragments (Vickery 1996). Breeding generally occurs from early May through August.

This species was not observed in the Study Area during Project-related surveys. The CNDDB shows one occurrence of this species within the nine quad area studied for the Project. This observation occurred in 2007, in the Deer Creek Hills unit of the Prairie City State Vehicle Recreation Area, which is about 10 miles southwest of the southwestern portion of the off-site area (Occurrence #15; CNDDB 2024). Cornell Lab's eBird database shows several other recent observations in the same general area (Cornell Lab 2024a). The annual brome grassland is marginally suitable habitat for this species due to the absence of scattered shrubs. The probability that this species could occur in the Study Area is low.

5.6.3 Golden Eagle

The golden eagle (*Aquila chrysaetos*) is not federally or state listed but is a CDFW fully protected species and is protected under the federal Bald and Golden Eagle Protection Act. It is a very large solitary raptor that forages in large, expansive open grasslands and savannahs, and nests on cliff ledges or in large, lone trees in rolling to mountainous terrain (Shuford and Gardali 2008). Though its natural densities are generally believed to be low, it once was relatively common to the open areas of California.

This species was not observed in the Study Area during Project-related surveys. The CNDDB lists two occurrences of golden eagle nest sites within the nine quad area studied for the Project, both in oak woodland/gray pine habitat east of Empire Ranch Road (CNDDB 2024). Both sites are within about two miles of the southwestern off-site area, with one recorded in 2015 as a potential alternative nest site for a pair (Occurrence # 322) and one recorded in 2014 as an active nest (Occurrence #321), Cornell Lab's eBird lists several recent unverified occurrences in the same area (Cornell Lab 2024a). Large trees in the Study Area provide suitable nesting habitat, and the annual brome grassland is suitable foraging habitat. There is a high likelihood that this species may occur in the Study Area.

5.6.4 Burrowing Owl

Burrowing owl (*Athene cunicularia*) is not listed pursuant to either the California or federal Endangered Species Acts but is designated as a Species of Special Concern by the CDFW. This species typically inhabits dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. It typically uses burrows created by fossorial mammals, most notably the California ground squirrel, but may also use man-made structures such as culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement. The breeding season extends from February 1 through August 31 (CBOC 1993, CDFW 2012).

This species was not observed in the Study Area during Project-related surveys, but annual grassland in the western part of the Study Area provides marginally suitable wintering habitat for burrowing owl. The CNDDB lists eight occurrences of this species within the nine quad area studied for this Project, the nearest being about four miles to the west/southwest of the southwestern off-site area, just south of where Highway 50 crosses the Sacramento/El Dorado County line (Occurrence #1166; CNDDB 2024). eBird lists several observations in eastern Sacramento County and far western El Dorado County, mostly along and west of Latrobe Road (Cornell Lab 2024a). Because this species is known to occasionally utilize annual grassland areas at similar foothill elevations for wintering, there is a low likelihood that it could occur within the Study Area.

5.6.5 Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a raptor species that is not federally listed but is listed as threatened by CDFW. Breeding pairs typically nest in tall trees associated with riparian corridors, and forage in grassland, irrigated pasture, and cropland with a high density of rodents (Shuford and Gardali 2008). The

Central Valley populations breed and nest in the late spring through early summer before migrating to Central and South America for the winter (Shuford and Gardali 2008).

This species was not observed in the Study Area during Project-related surveys. The CNDDB lists eight occurrences of Swainson's hawk within the nine quad area studied for the Project. The closest occurrence is about 4.5 miles west of the southwestern off-site area, but was recorded in 1962 (Occurrence #2662) in an area that includes downtown Folsom. The closest recent occurrence from 2012 (Occurrence #2234), is about 8.2 miles southwest of the southwestern off-site area, near the Prairie City State Vehicle Recreation Area. Cornell Lab's eBird shows a few unverified records near Bass Lake in El Dorado Hills and in Cameron Park (Cornell Lab 2024a). The Study Area is outside of the species' generally accepted range. Although it could fly through the area, the species is not expected to nest or forage in the Study Area with much frequency. The probability that this species could occur in the Study Area is low.

5.6.6 White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not federally or state listed but is a CDFW fully protected species. This species is a yearlong resident in the Central Valley and is primarily found in or near foraging areas such as open grasslands, meadows, farmlands, savannahs, and emergent wetlands (Shuford and Gardali 2008). White-tailed kites typically nest from March through June in trees within riparian, oak woodland, and savannah habitats of the Central Valley and Coast Range (Shuford and Gardali 2008).

This species was not observed in the Study Area during Project-related surveys. The CNDDB lists 10 occurrences of this species within the nine quad area studied for the Project. The nearest record, recorded in 2008 (Occurrence #149), is about 1.5 miles west of the southwestern off-site area (CNDDB 2024). Cornell Lab's eBird lists numerous recent unverified occurrences within five miles, including one in a residential area about 0.5 mile west of the on-site Study Area and one about 0.4 mile east of the southwestern off-site area (Cornell Lab 2024a). Trees within the Study Area provide suitable nesting habitat, and the annual brome grassland is suitable foraging habitat. There is a high likelihood that this species may occur in the Study Area.

5.6.7 Bald Eagle

Bald eagle (*Haliaeetus leucocephalus*) is listed as endangered under the CESA and is fully protected under state law and the federal Bald and Golden Eagle Protection Act. This species is not found in the high Sierra Nevada Mountains and breeds in northern California north of the Study Area. It requires large bodies of water or free flowing rivers with abundant fish and adjacent snags or other perches. It nests in large, live trees with open branchwork, most frequently in stands with less than 40% canopy and near a permanent water source (Zeiner et al. 1998 as updated).

This species was not observed in the Study Area during Project-related surveys. The CNDDB lists four occurrences of this species within the nine quad area studied for the Project, including historic use of an area near Bass Lake north of U.S. Highway 50 (Occurrence #130, about 1.7 miles southeast of the on-site

area) and near Folsom Lake to the west (Occurrence #358, about 2.2 miles west of the northwestern off-site area). Cornell Lab's eBird also shows several records in the vicinity of Bass Lake and Cameron Park Lake (Cornell Lab 2024a). Ponds within the Study Area provide suitable foraging habitat, but the species is unlikely to nest on-site due to small size of available foraging habitat. There is a high likelihood that this species may occur in the Study Area.

5.6.8 Yellow-Breasted Chat

Yellow-breasted chat (*Icteria virens auricollis*) is not federally or state listed but is designated as a Species of Special Concern by the CDFW. This small migratory songbird is fairly widespread but typically uncommon across much of the U.S. and Mexico during its breeding season; this species nests throughout western North America and winters from southern Baja California and south Texas south to as far as Costa Rica (Shuford and Gardali 2008, Cornell Lab 2024a). Yellow-breasted chats live in thickets and other dense, regrowing areas such as bramble bushes, clearcuts, powerline corridors, and shrubs along streams (Cornell Lab 2024b).

5.6.9 Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus*) is not federally or state listed but is designated as a Species of Special Concern by the CDFW. This predatory songbird typically hunts insects and small vertebrates including amphibians, reptiles, mammals, and birds. This species will cache excess food for later consumption by skewering prey on thorns, barbed wire, or other sharp objects. Loggerhead shrikes nest in small trees and shrubs in woodland and savanna vegetation communities, and forage in open habitats throughout California (Shuford and Gardali 2008). Their nesting season ranges from March through June.

This species was not observed in the Study Area during Project-related surveys. The CNDDB does not list any occurrences of loggerhead shrike in the nine quad area studied for this Project, but the eBird database shows an unverified 1984 occurrence near Cameron Park Lake to the west of the Study Area and an unverified 2022 observation to the south, near the intersection of Cambridge Road and Country Club Drive (Cornell Lab 2024a). Oak woodlands and grasslands in the Study Area provide suitable perching and foraging habitat for this species. Given the lack of recent observations in the general area, there is a low likelihood that this species may occur in the Study Area.

5.6.10 California Black Rail

California black rail (*Laterallus jamaicensis* ssp. *coturniculus*) is listed as threatened under the CESA. This secretive bird is a yearlong resident of saline, brackish, and fresh emergent wetlands including those in the Sacramento-San Joaquin Delta (Zeiner et al. 1988 as updated). California black rails nest close to the ground in or along marsh edges, in areas with saturated or shallowly flooded soils and dense vegetation, and usually hidden in marsh grass. They may also nest on damp ground, on mats of previous year's dead grasses (Terres 1980), or over very shallow water (Nature Serve 2022).

This species was not observed in the Study Area during Project-related surveys. The CNDDB lists two occurrences of this species within the nine quad area studied for the Project. The nearest observation (Occurrence #304), which is about 4.8 miles south of the on-site portion of the Study Area, was recorded in 2017 at a pond in a residential development south of US Highway 50 (CNDDB 2024). Marsh vegetation around the edges of the ponds provide marginally suitable habitat for the species due to the small patch sizes. This species has a moderate probability of occurring within the Study Area.

5.6.11 Yellow Warbler

Yellow warbler (*Setophaga petechia*) is not federally or state listed but is designated as a Species of Special Concern by the CDFW. This species occupies riparian vegetation proximate to water along streams and in wet meadows. This species no longer breeds in the central valley but occurs as a common migrant in the fall and winter months (Shuford and Gardali 2008). Yellow warblers are one of the most numerous warblers in North America, but their populations have been slowly declining (Lowther et al. 2020).

This species was not observed in the Study Area during Project-related surveys. The CNDDB does not list any occurrences of this species within the nine quad area studied for this Project. The Cornell Lab eBird database lists numerous unconfirmed observations in the vicinity of the Study Area, including records in residential areas about two miles to the west and near Bass Lake (Cornell Lab 2024a). There is a moderate likelihood that this species may occur in the Study Area as a migrant.

5.7 Mammals

5.7.1 Pallid Bat

Pallid bat (*Antrozous pallidus*) is not federally- or state-listed but is a CDFW Species of Special Concern and is classified by the WBWG as a high priority species. It favors roosting sites in crevices in rock outcrops, caves, abandoned mines, hollow trees, and human-made structures such as barns, attics, and sheds (WBWG 2022). Though pallid bats are gregarious, they tend to group in smaller colonies of 10 to 100 individuals. It is a nocturnal hunter and captures prey in flight, but unlike most American bats, the species has been observed foraging for flightless insects, which it seizes after landing (WBWG 2022).

This species was not observed in the Study Area during Project-related surveys. The CNDDB documents two occurrences of pallid bat within the nine quad area studied for the Project, but one record from 1941 (Occurrence #233) is for a specimen collected from a general area about 7.5 miles west of the Study Area (CNDDB 2024). A more recent (2017) occurrence was recorded in 2017 as part of a roost site under a bridge over the South Fork of the American River in Lotus (Occurrence #430), about 10.3 miles northeast of the on-site portion of the Study Area (CNDDB 2024). Suitable roosting habitat for pallid bat is present in tree hollows and under exfoliating bark on trees throughout the site. There is a high likelihood that this species may occur in the Study Area.

5.7.2 Townsend's Big-Eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii townsendii*) is not federally or state listed, but it is a California species of concern, and is classified by the WBWG as a High priority species. This species roosts primarily in caves and cave-like roosting habitat, including abandoned mines (WBWG 2018). Its habit of roosting pendant-like on open surfaces makes it readily detectable, and it can be the species most readily observed, when present (commonly in low numbers) in caves and abandoned mines throughout its range. It has also been reported to utilize buildings, bridges, rock crevices and hollow trees as roost sites. Forages in edge habitats along streams, and adjacent to and within a variety of wooded habitats (WBWG 2022).

This species was not observed in the Study Area during Project-related surveys. The CNDDB does not list any occurrences of Townsend's big-eared bat within the nine quad area studied for the Project. The abandoned buildings just south of the pond represent marginally suitable roosting habitat for this species. There is a moderate probability for Townsend's big-eared bat to occur within the Study Area.

5.7.3 Silver-Haired Bat

Silver-haired bat (*Lasionycteris noctivagans*) is not federally or state listed but is classified by the WBWG as a Medium priority species. Primarily considered a coastal and montane forest species, the silver-haired bat occurs in more xeric environments during winter and seasonal migrations (WBWG 2022). It roosts in abandoned woodpecker holes, under bark, and occasionally in rock crevices. This insectivore's favored foraging sites include open wooded areas near water features (WBWG 2022).

This species was not observed in the Study Area during Project-related surveys. The CNDDB lists two occurrences of this species within the nine quad area studied for the Project. Both occurrences are for collected specimens, one from 1939 in an area that is now part of Folsom (Occurrence #64) and one from 1990 in the downtown Folsom area (CNDDB 2024). Suitable roosting habitat for silver-haired bat is present in tree hollows and under exfoliating bark on trees throughout the site. There is a high likelihood that this species may occur in the Study Area.

5.7.4 Western Red Bat

Western red bat (*Lasiurus blossevillii*) is not federally or state listed but is considered a CDFW species of special concern and is classified by the WBWG as a High priority species. Western red bat is typically solitary, roosting primarily in the foliage of trees or shrubs (WBWG 2022). Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (WBWG 2022).

This species was not observed in the Study Area during Project-related surveys. There are no CNDDB occurrences of this species within the nine quad area studied for the Project. iNaturalist shows one non-specific record for El Dorado County, a western red bat being rehabbed in 2023 (iNaturalist 2024). Trees

scattered throughout the site provide suitable roosting habitat for western red bat. There is a high likelihood that this species may occur in the Study Area.

5.7.5 Hoary Bat

The hoary bat (*Lasiurus cinereus*) is not federally or state listed but is classified by the WBWG as a Medium priority species. It is considered to be one of the most widespread of all American bats with a range extending from Canada to central Chile and Argentina as well as Hawaii (WBWG 2022). Hoary bats prefer older large leaf trees, such as cottonwoods, willows, and fruit or nut trees for daytime roosts. This species is primarily crepuscular or nocturnal and requires open areas to hunt its main prey item, moths. The hoary bat is considered a forest/woodland species, and in California they are often associated with undisturbed riparian or stream corridors (WBWG 2022).

This species was not observed in the Study Area during Project-related surveys. The CNDDB does not list any occurrences of this species within the nine quad area studied for the Project. iNaturalist shows two records for hoary bat in El Dorado County, including one from near Fallen Leaf Lake in the Tahoe Basin from 2016 and a non-specific record of a hoary bat being rehabbed in 2023, and two records from far western Sacramento County (iNaturalist 2024). Trees scattered throughout the site provide suitable roosting habitat for hoary bat. There is a high likelihood that this species may occur in the Study Area.

5.7.6 American Badger

The American badger (*Taxidea taxus*) is not federally or state listed but is designated as a species of special concern by CDFW. The species historically ranged throughout much of the state except in humid coastal forests. Badgers were once numerous in the Central Valley; however, populations now occur in low numbers in the surrounding peripheral parts of the valley and in the adjacent lowlands of eastern Monterey, San Benito, and San Luis Obispo counties (Williams 1986). Badgers occupy a variety of habitats, including grasslands and savannas. The principal requirements seem to be significant food supply, friable soils, and relatively open uncultivated ground (Williams 1986).

This species was not observed in the Study Area during Project-related surveys. The CNDDB lists one presumed extant occurrence of American badger within the nine quad area studied for the Project, a carcass that had been hit by a car in 2015, in oak savannah and oak woodland habitat along East Natoma Street near the Folsom Lake Crossing intersection in Folsom (Occurrence #489; CNDDB 2024). The annual brome grasslands and oak woodlands in the Study Area provide marginally suitable habitat for American badger due to the surrounding residential development. The probability that this species could occur in the Study Area is low.

6.0 POTENTIAL IMPACTS TO SENSITIVE BIOLOGICAL RESOURCES AND RECOMMENDED MITIGATION

As proposed, the Project would directly impact 164.1 acres of the 301-acre on-site Study Area (**Figure 6**) and up to 13.2 acres in the off-site portions of the Study Area. The following discussions summarize potential impacts to sensitive biological resources and make recommendations to minimize and mitigate those impacts.

6.1 Aquatic Resources

As of the time of this report, a jurisdictional determination for aquatic resources in the Study Area is pending with the USACE. As proposed, the Project could impact 2.30 acres of aquatic resources in the on-site portion of the Study Area, including the entirety of the lower pond, a portion of the upper pond, sections of roadside ditch, a portion of intermittent stream (Green Spring Creek) (**Figure 6**). Lower pond impacts would occur as a result of channel reconstruction. The post-construction condition for the lower pond would support an engineered channel for Green Spring Creek (see **Attachment A**). Upper pond impacts would occur as a result of reconstructing the embankment and installing a flow control structure; the reconstruction would slightly change the ordinary high water mark for the upper pond area and the post-construction condition would carry Green Spring Creek flow through the Project area. Ponding upstream of the flow control structure may occur during storm events, but under normal conditions, low flows would simply pass through the former upper pond area. Roadside ditch impacts would occur as a result of infrastructure installation and access road modifications. Finally, impacts to intermittent stream would occur with the construction of road crossings and/or upper embankment reconstruction. **Table 4** summarizes the expected aquatic resource impacts in the on-site portion of the Study Area.

Table 4. Potential Aquatic Resource Impacts in the On-Site Portion of the Study Area

Resource Type	Amount in Study Area (acres) [1]	Potential Impacts (acres)	Avoided (acres)
Wetlands			
Seep	0.39	0.00	0.39
Seasonal Wetland Swale	2.14	0.00	2.141
Seasonal Wetland	0.03	0.00	0.03
Total Wetlands	***2.56***	***0.00***	***2.56***
Other Waters			
Ephemeral Drainage	0.24	0.00	0.24
Intermittent Drainage	0.81	0.05	0.76
Pond	3.80	2.25	1.55
Roadside Ditch	0.03	<0.01	0.03
Total Other Waters	***4.88***	***2.30***	***2.58***
GRAND TOTAL	**7.44**	**2.30**	**5.14**

Summation errors may occur due to rounding.

[1] Does not include off-site infrastructure areas; see **Table 5**.

Because the extent of impact within the off-site infrastructure areas is unknown at this time, aquatic resource impacts associated with work within those areas cannot be estimated with certainty. As such, **Table 5** summarizes the potential maximum amount of aquatic resource impacts that could occur in the off-site areas.

Table 5. Maximum Aquatic Resource Impacts in the Off-Site Infrastructure Areas

Resource Type	Amount in Off-Site Study Areas (acres)	Potential Maximum Impact (acres)[1]
Wetlands		
Seasonal Wetland Swale	0.02	0.02
Total Wetlands	***0.02***	***0.02***
Other Waters		
Ephemeral Drainage	0.01	0.01
Intermittent Drainage	0.08	0.08
Total Other Waters	***0.09***	***0.09***
GRAND TOTAL	**0.11**	**0.11**

Summation errors may occur due to rounding.

[1] Pending final design, it is anticipated that the Project can be designed to avoid direct impacts to Allegheny Creek and potentially to the seasonal wetland swale. As such, the actual impact total is expected to be lower than that shown on the Grand Total line.

To mitigate for expected impacts to aquatic resources, we recommend the following measures:

1. The Project proponent shall apply for a Section 404 permit from the U.S. Army Corps of Engineers for activity that would waters of the U.S. Waters of the U.S. that will be impacted shall be replaced or rehabilitated on a "no-net-loss" basis. Compensatory mitigation in the form of habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods acceptable to the USACE.
2. The Project proponent shall apply for a Section 401 water quality certification from and/or submit a Report of Waste Discharge to the RWQCB and adhere to the certification conditions/WDRs.

Additionally, because the Project requires the crossing of Green Spring Creek in two locations and would result in impacts to the in-stream ponds, the Project proponent shall notify the CDFW consistent with the requirements of Fish and Game Code Section 1600 (Lake or Streambed Alteration) and abide by the conditions of any LSAA issued by CDFW. If any portion of Allegheny Creek and/or the riparian area associated with the creek will be disturbed by work in the northwestern off-site portion of the Study Area, the notification shall include the Allegheny Creek and/or riparian impact details.

Finally, the El Dorado County Zoning Ordinance requires adequate setbacks from aquatic resources. With the exception of work proposed in the areas of the ponds and at road crossings of Green Spring Creek, the proposed Project will avoid direct impacts to aquatic resources (ephemeral drainages, seasonal wetlands, and seasonal wetland swales) within the subdivision development area and portions of Green Spring Creek. Setbacks from aquatic resources vary throughout the subdivision; see **Attachment A** for detail. No additional setbacks from avoided resources are recommended.

6.2 Terrestrial Vegetation Communities

As shown on **Figure 6**, the current proposal would permanently impact an area of about 164± acres within the on-site portion of the Study Area. Of the impacted area, about 162 acres are comprised of terrestrial vegetation communities (the remaining 2.0+ acres in the impact area are aquatic resources as described in **Section 6.1** above). **Table 6** summarizes impacts to terrestrial vegetation communities within the on-site portion of the Study Area.

Table 6. Potential Terrestrial Vegetation Community Impacts in the On-Site Portion of the Study Area

Community Type	Amount in Study Area (acres)[1,2]	Potential Impacts (acres)	Avoided (acres)
Annual Brome Grassland	167.3	106.0	61.3
Armenian Blackberry Bramble	0.6	0.3	0.3
Eucalyptus Woodland	0.1	0.0	0.1
Oak Woodland	109.4	54.5	54.9
Valley Needlegrass Grassland[3]	<0.1	<0.1	0.0
Serpentine Chaparral	0.8	0.0	0.8
Strawberry Field (agriculture)	1.0	0.4	0.6
Disturbed	0.2	0.0	0.2
Ruderal	6.8	0.5	6.3
Urban	6.9	0.5	6.4
TOTAL[2]	**293.1**	**162.2**	**130.9**

Summation errors may occur due to rounding.

[1] Does not include off-site infrastructure areas; see **Table 7**.

[2] Total amount in Study Area does not include aquatic resources listed in **Table 4**. The combined total for terrestrial vegetation communities and aquatic resources represents the entirety of the on-site study area.

[3] A CDFW-designated Sensitive Natural Community. Impacted area is 0.013 acre.

As described in **Section 6.1** above, the extent of impact within the off-site infrastructure areas is unknown at this time. As such, **Table 7** summarizes the potential maximum amount of terrestrial vegetation community impacts that could occur in the off-site areas. Pending more detailed design, final off-site impact totals are expected to be lower than shown in **Table 7**.

Table 7. Maximum Terrestrial Vegetation Community Impacts in Off-Site Portions of the Study Area

Community Type	Amount in Off-Site Study Areas (acres)[1]	Potential Maximum Impacts (acres)
Annual Brome Grassland	7.3	7.3
Armenian Blackberry Bramble	<0.1	0.0
Oak Woodland[2]	1.5	1.5
Serpentine Chaparral	1.0	1.0
Fremont Cottonwood Riparian Woodland	0.1	0.1
Disturbed	0.6	0.6
Ruderal	0.3	0.3
Urban	2.4	2.4
TOTAL	**13.2**	**13.2**

Summation errors may occur due to rounding.

[1] Total amounts in off-site Study Areas do not include off-site aquatic resources listed in **Table 5**.

[2] Oak woodland acreages showing in this table do not include areas that overlap with aquatic resources.

6.2.1 Sensitive Vegetation Communities

The Project would directly affect two sensitive vegetation community resources: oak woodland and Valley needlegrass grassland.

6.2.1.1 Oak Resources

Preliminary estimates indicate that the Project would result in the loss of 56.0 acres of oak woodland (54.5 acres on-site [**Figure 6**] and up to 1.5 acres off-site [**Figure 7**]) and is expected to result in the loss of individual trees protected under the County's Oak Resources Conservation Ordinance. Additional individual oak tree losses may occur in on- or off-site portions of the Study Area. The Oak Woodlands Technical Report that is in preparation by California Tree and Landscape Consulting, Inc., will include detail regarding individual tree impacts. To compensate for the loss of oak resources, we expect the County to require compliance with the following measures, which are derived from the County's Oak Resources Conservation Ordinance:

1. The Project proponent shall complete an Oak Resources Technical Report as required by Chapter 130.39 of the El Dorado County Code. The report shall summarize the oak woodlands within the Study Area, and document the number, size, species, and condition of all native oak trees outside of mapped oak woodlands with a single main trunk measuring greater than six inches in diameter at breast height (DBH) or with a multiple trunk having an aggregate trunk diameter measuring greater than ten inches DBH. The report shall identify all individual native oak trees greater than DBH 24 inches and less than DBH 36 inches occurring within the oak woodlands and all heritage native oak trees (DBH 36 inches and greater) present, including any occurring within the oak woodlands. The report shall identify mitigation at a 1:1 ratio (the ratio used for oak woodland

impacts up to 50% per the El Dorado County Oak Resources Management Plan [El Dorado County 2017]) by one of the following methods:

a) In-lieu fee payment based on the percent of on-site Oak Woodland impacted by the development as shown in Table 5 (Oak Woodland In-Lieu Fee) in the ORMP to be either used by the County to acquire off-site deed restrictions and/or conservation easements or to be given by the County to a land conservation organization to acquire off-site deed restrictions and/or conservation easements;
b) Off-site deed restriction or conservation easement acquisition for purposes of off-site oak woodland conservation consistent with Chapter 4.0 (Priority Conservation Areas) of the ORMP;
c) Replacement planting within an area on-site for up to 50 percent of the total oak woodland mitigation requirement consistent with Section 2.4 (Replacement Planting Guidelines) of the ORMP. This area shall be subject to a Deed Restriction or Conservation Easement
d) Replacement planting within an area off-site for up to 50 percent of the total oak woodland mitigation requirement. Off-site replacement planting areas shall be consistent with Section 2.4 (Replacement Planting Guidelines) and Chapter 4.0 (Priority Conservation Areas) of the ORMP. This area shall be subject to a Deed Restriction or Conservation Easement; or
e) A combination of options a through d above.

2. The Project proponent shall submit an Oak Woodland Removal Permit application consistent with Chapter 130.39 of the El Dorado County Code and El Dorado County Oak Resources Management Plan (El Dorado County 2017).
3. The Project proponent shall implement all requirements of the Oak Woodland Removal Permit issued by El Dorado County and provide documentation showing fulfillment of the 1:1 mitigation requirement.
4. Because the Project would retain areas of oak woodland in the Study Area, a bond or other security instrument as described in El Dorado County Code Section 130.39.070 would be required. The bond or other security instrument shall be required as a condition of issuance of the discretionary permit and/or authorization to protect oak woodlands identified for preservation during the construction period. The form and amount of the security instrument shall be specified by the permit issuing body and approved by County Counsel. No grading or other on-site work shall be permitted until the security is posted.
5. If oak tree replacement planting is proposed for the Project, the Project proponent shall post a bond or other security instrument in an amount equal to the current value of required replacement tree(s) and/or acorns, plus the cost of maintenance and monitoring, as determined by a Qualified Professional (as described in El Dorado County Code Section 130.39.070). No grading or other on-site work shall be permitted until the security is posted.

Note that oak woodland impacts within the off-site areas may be reduced depending upon refinement of impact areas, and it is expected that the final compensatory mitigation requirement for off-site impacts would reflect these final impact areas. No additional mitigation is proposed.

6.2.1.2 Valley Needlegrass Grassland

Valley needlegrass grassland is a CDFW Sensitive Natural Community. Under the current design, the area supporting the Valley needlegrass grassland at the base of an existing embankment would be removed and 0.013 acre of Valley needlegrass grassland community would be directly and permanently impacted. To compensate for this impact, we recommend the following:

To achieve no net loss of Valley needlegrass grassland acreage, mitigation shall include one or more of the following components:

- Establish Valley needlegrass grassland within the Project's open space areas currently characterized by annual grassland;
- Establish Valley needlegrass grassland off-site; or
- Preserve and enhance existing Valley needlegrass grassland within five (5) miles of the Project site.

The Project proponent shall compensate for any loss of Valley needlegrass grassland resulting from Project implementation at a minimum 1:1 replacement ratio. The proposed mitigation plan shall be provided to and approved by the County prior to removal of the Valley needlegrass grassland on site. If the mitigation plan calls for establishing a new area of Valley needlegrass grassland either on- or off-site, it shall include a provision to monitor the compensation area for a period of at least two (2) years following planting.

Additionally, because this work is in the vicinity of Green Spring Creek, it is likely to require a LSAA under Section 1602 of the Fish and Game Code (see **Section 6.1** above). CDFW will review the Project's potential impacts on resources under its jurisdiction and may apply a different and/or additional measure to mitigate the loss of Valley needlegrass grassland.

6.3 Special-Status Plants

6.3.1 Special-Status Plant Surveys

Special-status plant surveys conducted throughout the on-site portion of the Study Area in 2021 were negative, but given enough time or a significant disturbance event, plants may become established in areas where suitable habitat exists. Off-site portions of the Study Area, including those adjacent to the on-site portion of the Study Area along Green Valley Road, are scheduled for special-status plant surveys in 2024. In its *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 2000), the USFWS notes that project sites with inventories older than three (3) years from the current date of project proposal will likely need additional survey. Therefore, if construction in areas surveyed in 2021 does not occur prior to spring 2025, we recommend that the Project proponent complete another round of special-status plant surveys at the appropriate time of year of on-site development areas that would be impacted by the Project prior to commencement of construction. If no special-status plant species are found during the 2024 surveys of off-site areas or, if development area

surveys are repeated and no special status plant species are located during the re-survey, no relocation would be required. If special-status plants are found during any of the surveys and will be impacted, mitigation for those impacts will be determined during consultation with the County. If the plant found is a perennial, then mitigation could consist of digging up the plant and transplanting into a suitable avoided area on-site prior to construction. If the plant found is an annual, then mitigation could consist of collecting seed-bearing soil and spreading into a suitable avoided area on-site prior to construction.

6.3.2 Rare Plant Mitigation Fee

At least a portion of the Study Area is located within Rare Plant "Mitigation Area 1", and as such, Chapter 130.71 of the El Dorado County Code requires the Project proponent to pay the current "Rare Plant Mitigation Fee" prior to issuance of a building permit. That fee is currently $885 per dwelling unit equivalent, but if that fee changes prior to building permit application, the Project proponent would need to pay the applicable fee at that time. No additional mitigation is proposed.

6.4 Invertebrates

6.4.1 Crotch Bumble Bee

The Study Area supports suitable nesting and foraging habitat for Crotch bumble bee. As such, we recommend the following measures:

Crotch bumble bee was designated as a candidate for listing under the CESA in 2019, but no decision on listing has been published. If, at the time of project implementation, the species is not a CESA candidate or CESA listed, and it does not fall into any of other special-status categories, then it would not qualify for protections under CEQA and no mitigation is necessary. Furthermore, because Crotch bumble bee is a candidate species, appropriate mitigation measures are still being developed and refined. Madrone has developed the following measure based on current literature and research, including CDFW's *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (CDFW 2023b). If at a later date a different mitigation measure is determined to be more appropriate, that measure can be submitted to the County at that time for review and approval.

- Initial ground-disturbing work (e.g., grading, vegetation removal, staging) shall take place between 1 September and 31 March (i.e., outside the colony active period), if feasible, to avoid impacts on Crotch bumble bee.
- If completing all initial ground-disturbing work between 1 September and 31 March is not feasible, then a senior biologist with 10 or more years of experience conducting biological resource surveys within California shall conduct a pre-construction survey for Crotch bumble bee in the area proposed for impact no more than 14 days prior to the commencement of construction activities. The survey shall occur during the period from one hour after sunrise to two hours before sunset, with temperatures between 65° F and 90° F, with low wind and no rain. If the timing of the start of construction makes the survey infeasible due to the temperature requirements, the surveying

biologist shall select the most appropriate days based on the National Weather Service seven-day forecast and shall survey at a time of day that is closest to the temperature range stated above. The survey duration shall be commensurate with the extent of suitable floral resources (which represent foraging habitat) present within the area proposed for impact and the level of effort shall be based on the metric of a minimum of one person-hour of searching per three acres of suitable floral resources/foraging habitat. A meandering pedestrian survey shall be conducted throughout the area proposed for impact in order to identify patches of suitable floral resources. Suitable floral resources for Crotch bumble bee include species in the following families: Apocynaceae, Asteraceae, Boraginaceae, Fabaceae, and Lamiaceae.

- At a minimum, pre-construction survey methods shall include the following:
    - Search areas with floral resources for foraging bumble bees. Observed foraging activity may indicate a nest is nearby, and therefore, the survey duration shall be increased when foraging bumble bees are present.
    - If bumble bees are observed, attempt to photograph the individual and identify it to species.
    - If Crotch bumble bee is observed, watch any Crotch bumble bees present and observe their flight patterns. Attempt to track their movements between foraging areas and the nest.
    - Visually look for nest entrances. Observe burrows, any other underground cavities, logs, or other possible nesting habitat.
    - If floral resources or other vegetation preclude observance of the nest, small areas of vegetation may be removed via hand removal, line trimming, or mowing to a height of no less than 4 inches to assist with locating the nest.
    - Look for concentrated Crotch bumble bee activity.
    - Listen for the humming of a nest colony.
- The biologist conducting the survey shall record when the survey was conducted, a general description of any suitable foraging habitat/floral resources present, a description of observed bumble bee activity, a list of bumble bee species observed, a description of any vegetation removed to facilitate the survey, and their determination of if survey observations suggest a Crotch bumble bee nest(s) may be present or if construction activities could result in take of Crotch bumble bees. The report shall be submitted to the County prior to the commencement of construction activities.
- If no bumble bees are located during the pre-construction survey or the bumble bees located are definitively identified as common (i.e., not special-status) species, then no further mitigation or coordination with CDFW is required.
- If any sign(s) of a bumble bee nest is observed, and if it cannot be established the species present is not a Crotch bumble bee, then construction shall not commence until either 1) the bumble bees present are positively identification as common (i.e., not special status) by an experienced bumble bee taxonomist, or 2) the completion of coordination with CDFW to identify appropriate mitigation measures, which may include but not be limited to: waiting until the colony active season ends, establishment of nest buffers, or obtaining an Incidental Take Permit (ITP) from CDFW.
- It is recommended, but not required that the Project Applicant also survey the proposed impact areas the year before construction begins in order to avoid potential last-minute delays associated

with identifying Crotch bumble bees on-site immediately prior to construction activities. To be most effective, this optional survey should follow the protocol outlined above.

- If Crotch bumble bees are located, and after coordination with CDFW take of Crotch bumble bees cannot be avoided, the Applicant shall obtain an ITP from CDFW prior to County approval of permits authorizing construction, and the Applicant shall implement all conditions identified in the ITP. Mitigation required by the ITP may include but will not be limited to, the Project Applicant translocating nesting substrate in accordance with the latest scientific research to another suitable location (i.e., a location that supports similar or better floral resources as the impact area), enhancing floral resources on areas of the Project site that will remain appropriate habitat, worker awareness training, and/or other measures specified by CDFW.

6.4.2 Monarch

The Study Area is known to support milkweed, the host plant for monarch butterfly. This species could be adversely affected if construction activity results in the removal of milkweed plants being actively utilized by monarch (either supporting eggs or feeding caterpillars) at the time of construction.

To mitigate for potential impacts to monarch, we recommend the following measure:

- If construction occurs during the time when milkweed plants may host monarch eggs or caterpillars (approximately mid-March through late September) and construction activity would require the removal of milkweed plants, the plants shall be surveyed by a qualified biologist no more than 14 days prior to plant removal for the presence of eggs or caterpillars. If eggs or caterpillars are detected, the plants shall be avoided until they are no longer being utilized by monarch caterpillars, as confirmed by a qualified biologist. If no eggs or caterpillars are detected, no additional protection measures are necessary.

6.5 Amphibians

6.5.1 California Red-Legged Frog

The CRLF habitat assessment found that suitable aquatic breeding habitat is present within the two on-site ponds and within an on-site seep (Seep-4 as shown in **Attachment F**). The habitat assessment also found that Green Spring Creek and Allegheny Creek provide potential dispersal habitat. Protocol surveys for CRLF conducted in 2016 and 2023 revealed that the species is absent from the Study Area. However, the results of these surveys are valid for two years and may need to be repeated if construction starts after July 2025.

To ensure that Project construction avoids impacts to CRLF, we recommend the following:

- The surveys conducted in 2023 are valid for two years. If construction does not start before July of 2025, the Project proponent shall hire a qualified biologist to repeat USFWS protocol California red-legged frog (CRLF) surveys in accordance with the *Revised Guidance on Site*

Assessments and Field Surveys for the California Red-Legged Frog (USFWS 2005) within the two onsite ponds, Seep S-4, Green Spring Creek and Allegheny Creek as shown on the aquatic resources delineation map for the Generations at Green Valley Project.

- As part of the CWA Section 404 USACE permitting for the Project, the USACE will conduct formal Endangered Species Act consultation with the USFWS on potential impacts to federally-listed species or species that are proposed for listing. The Applicant shall prepare a Biological Assessment, which will include details on potential impacts and mitigation for CRLF, to be submitted to the USACE and the USFWS.
- If it is determined that take of CRLF is likely to occur, the Applicant shall abide by mitigation measures developed during the course of the Endangered Species Act consultation with the USFWS. These mitigation measures could include, but are not limited to, seasonal work restrictions for initial ground disturbance, pre-construction surveys by a qualified biologist, the installation of wildlife exclusion fencing, biological monitoring, and worker environmental awareness training. If it is determined that take of CRLF is likely to occur, additional measures could include preservation, restoration, or enhancement of habitat on- or off-site, purchase of habitat credits from an agency-approved mitigation/conservation bank, working with a local land trust to preserve land, or any other method acceptable to USFWS. The mitigation measures listed below may be implemented if take of CRLF is likely to occur. If the measures listed below differ from mitigation measures included in a Biological Opinion from the USFWS, the measures in the USFWS Biological Opinion take precedence.
    - To mitigate potential impacts to CRLF habitat, the Applicant will preserve CRLF habitat. The preserved habitat shall consist of an onsite preserve, offsite preserved habitat, or the purchase of mitigation bank credits from a USFWS-approved mitigation bank or a combination thereof. Impacts to CRLF habitat will be mitigated at a ratio of 3:1 or another mitigation ratio as agreed upon by the USFWS and the Applicant.
    - Initial ground disturbance shall occur from May 1 through October 15, which is outside of the season when CRLF are most likely to utilize uplands. Daily biological monitoring of the Project shall take place by the qualified biologist during initial ground disturbance within 250-feet of potential CRLF aquatic habitat.
    - Prior to the start of construction, a qualified biologist shall conduct a worker environmental awareness training program for all construction personnel, including contractors and subcontractors. The training shall include, at a minimum, a description of CRLF and their habitats within the Project; an explanation of the species status and protection under state and federal laws; the avoidance and minimization measures to be implemented to reduce take of these species; communication and work stoppage procedures in case these species are observed within the Project; and an explanation of the importance of the Environmentally Sensitive Areas (ESAs) and Wildlife Exclusion Fencing (WEF). A fact sheet conveying this information shall be prepared and distributed to all construction personnel. The training shall provide interpretation for non-English speaking workers. The same instruction shall be provided to any new workers before they are authorized to perform Project work.

- Prior to the start of each phase of construction, ESAs (defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed) shall be clearly delineated using high visibility orange fencing. The ESA fencing shall remain in place while construction activities are ongoing and shall be regularly inspected and fully maintained at all times.
- A qualified biologist shall be onsite during all activities that may result in take of CRLF.
- Prior to the start of construction, a fencing plan shall be submitted to the USFWS for approval prior to installation. Upon approval from the USFWS, WEF shall be installed at the edge of the Project footprint in all areas where sensitive species could enter the construction area. The location of the fencing shall be determined by the contractor and the qualified biologist. The WEF shall include the placement of cover boards every 100 feet on the inside and outside of the WEF. The WEF shall remain in place throughout the duration of the Project phase and shall be regularly inspected and fully maintained. Repairs to the WEF shall be made within 24 hours of discovery. Upon Project completion, the WEF shall be completely removed, the area cleaned of debris and trash, and returned to natural conditions. An exception to the foregoing fencing measures is that for work sites where (i) the duration of work activities is very short (e.g., three days or less), (ii) that occur during the dry season, and (iii) the installation of exclusion fencing will result in more ground disturbance than from Project activities, then the boundaries and access areas and sensitive habitats may be staked and flagged (as opposed to fully fenced) by the qualified biologist prior to disturbance and species monitoring would occur during all Project activities at that site.
- At least 15 days prior to initiation of ground disturbance activities the qualified biologist shall prepare and submit a CRLF Relocation Plan for the USFWS written approval. The plan shall include protocol to be followed should a CRLF be encountered during Project activities. The Relocation Plan shall contain the name(s) of the approved biologist(s) to relocate CRLF, methods of relocation, a map, and description of the proposed release site(s) within the vicinity of the Project and written permission from the landowner to use their land as a relocation site.
- No more than 24 hours prior to the date of initial ground disturbing activities and vegetation clearing, a preconstruction survey for the CRLF shall be conducted by the qualified biologist at the Project. The survey shall consist of walking the construction area limits and within the Project to ascertain the possible presence of the species. The biologist shall investigate all potential areas that could be used by the CRLF for feeding, breeding, sheltering, movement, and other essential behaviors. This includes an adequate examination of mammal burrows, such as California ground squirrels (*Otospermophilus beecheyi*) or gophers. If any CRLF are identified, they shall be relocated outside of the work area in accordance with the USFWS-approved relocation plan. Only USFWS-approved biologists may capture, handle, and monitor CRLF.
- Project site access routes, number and size of staging areas, and work areas, will be limited to the minimum necessary to achieve the Project goals. The final Project plans will depict all locations where ESA and WEF fencing will be installed and will provide

installation specifications. The bid solicitation package special provisions will clearly describe acceptable fencing material and prohibited construction-related activities, including vehicle operation, material and equipment storage, access roads and other surface-disturbing activities within ESAs.

- All equipment will be maintained such that there will be no leaks of automotive fluids such as gasoline, oils, or solvents.
- Hazardous materials – such as fuels, oils, and solvents – will be stored in sealable containers in a designated location at least 200 feet from aquatic habitats. All fueling and maintenance of vehicles and other equipment and staging areas will occur at least 200 feet from any aquatic habitat.
- The Applicant will ensure the qualified biologist or onsite construction manager, or their designee will have full authority to implement and enforce all measures and conditions in the Biological Opinion. A copy of the Biological Opinion will be kept on the Project site whenever construction is in progress. The name(s) and telephone number(s) of the qualified biologist, biological monitor(s) and construction manager and/or designee will be provided to the USFWS at least 30 calendar days prior to groundbreaking at the Project site.
- The qualified biologist or biological monitor(s) will possess a working phone whose number will be provided to the USFWS prior to the start of construction and ground disturbance activities. The biological monitor(s) will keep a copy of the Biological Opinion in their possession when onsite. The Applicant shall give the qualified biologist and biological monitors authority to communicate verbally, by telephone, email, or hardcopy with the Applicant, Project construction personnel, and any other person(s) at the Project site or otherwise associated with the project to ensure that the Terms and Conditions of the Biological Opinion are met. The biological monitor(s) will oversee implementation of the Terms and Conditions in the Biological Opinion and will have the authority to stop Project activities if the monitor(s) determine any of the associated requirements are not being fulfilled. If the biological monitor(s) exercise this authority, the USFWS will be notified by telephone and email within 24 hours.
- Before the start of work each day, the qualified biologist or biological monitor will check for CLRF under any equipment such as vehicles and stored pipes. The biological monitor will check all excavated steep-walled holes or trenches greater than one-foot-deep for any CRLF. CRLF will be removed by the biological monitor and relocated according to the Relocation Plan. To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than six inches deep will be covered with plywood (or similar materials) that leave no entry gaps at the close of each working day or provided with one or more escape ramps constructed of earth fill or wooden planks. The qualified biologist or biological monitor will inspect all holes and trenches at the beginning of each workday and before such holes or trenches are filled. All replacement pipes, culverts, or similar structures stored in the action area overnight will be inspected before they are subsequently moved, capped, or buried.

- After the initial ground disturbance has taken place and the site is fenced with WEF, biological monitoring inspections shall take place three times per week during the active season (October 16 through April 30). A qualified biologist shall inspect the construction area, WEF, and cover boards for CRLF. Biweekly monitoring shall occur during the inactive season (May 1 through 15 October).
- If necessary, notify the USFWS of an injured or dead CRLF in the action area within two calendar days of a finding. Written notification to the USFWS will include the following information: the species, number of animals taken or injured, sex (if known), date, time, location of the incident or of the finding of a dead or injured animal, how the individual was taken, photographs of the specific animal, the names of the persons who observed the take and/or found the animal, and any other pertinent information. Dead specimens will be preserved, as appropriate, and held in a secure location until instructions are received from the USFWS regarding the disposition of the specimen.
- If verbally requested before, during, or upon completion of ground disturbance and construction activities, the Applicant will ensure, without delay, the USFWS can immediately access and inspect the project site to gauge compliance with the Biological Opinion, and to evaluate project effects on CRLF and its habitat.
- To prevent CRLF from becoming entangled, trapped, or injured, erosion control materials that use plastic or synthetic monofilament netting will not be used. These prohibited materials include those using photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials include natural fibers such as jute, coconut, twine, or other similar fibers. Following construction, any materials left behind as part of the construction, such as straw wattles, should not impede movement of CRLF.
- During construction or long-term operational maintenance in areas supporting upland habitat for the CRLF, no rodenticides will be used at the proposed Project. Larval mosquito abatement efforts such as the treatment of wetlands or ponds with insecticides or the stocking of the non-native mosquitofish (*Gambusia affinis*) should be avoided.
- Construction and ground disturbance will occur only during daytime hours, will cease at sunset, and will not begin again until sunrise.
- Night lighting of staging areas and permanent lighting shall not illuminate the ESAs.
- All foods and food-related trash items will be stored in enclosed sealed trash containers or vehicles and will be removed from the site every three days.
- No pets will be allowed outside of vehicles or construction trailers unless they are on a leash. Pets shall not be allowed in any ESAs or within the onsite preserve.
- No more than a maximum speed limit of 15 mph will be permitted within the Project area.

6.5.2 Foothill Yellow-Legged Frog

Both Green Spring Creek and Allegheny Creek represent dispersal habitat for foothill yellow-legged frog. We recommend the following measures to mitigate potential impacts to this species.

- As part of the CWA Section 404 USACE permitting for the Project, the USACE will conduct formal Endangered Species Act consultation with the USFWS on potential impacts to federally-listed species or species that are proposed for listing. The Applicant shall prepare a Biological Assessment, which will include details on potential impacts and mitigation for foothill yellow-legged frog, to be submitted to the USACE and the USFWS.
- If take of FYLF is determined to be likely, the Applicant shall submit an application for an CDFW Code Section 2081 Incidental Take Permit.
- If it is determined that take of FYLF is likely to occur, the Applicant shall abide by mitigation measures developed during the course of the Endangered Species Act consultation with the USFWS and CDFW. These mitigation measures could include, but are not limited to seasonal work restrictions for initial ground disturbance, pre-construction surveys by a qualified biologist, the installation of wildlife exclusion fencing, biological monitoring, and worker environmental awareness training. If it is determined that take of FYLF is likely to occur, additional measures could include preservation, restoration, or enhancement of habitat on- or off-site, purchase of habitat credits from an agency-approved mitigation/conservation bank, working with a local land trust to preserve land, or any other method acceptable to USFWS and CDFW. The mitigation measures listed below may be implemented if take of FYLF is likely to occur. If the measures listed below The mitigation measures listed below may differ from mitigation measures included in a USFWS Biological Opinion or a CDFW Incidental Take Permit. the measures in the USFWS Biological Opinion and CDFW Incidental Take Permit take precedence.
    - To mitigate potential impacts to FYLF habitat, the Project proponent will restore Green Spring Creek to remove the onsite ponds which are not currently FYLF habitat.
    - The Project proponent shall develop a Pre-Construction Survey Plan for FYLF and submit it to the USFWS and CDFW for approval prior to ground-disturbing activities. The Plan shall include what life-stage(s) shall be surveyed for, survey method(s), and timing of survey(s). The Plan shall provide justification for timing and methodology of survey design (e.g., watershed characteristics, regional snow pack, timing and rate of spring runoff, day length, average ambient air and water temperatures, local and seasonal conditions). For sites with suitable breeding habitat, two consecutive seasons of negative egg mass/larval surveys are recommended to support a negative finding.
    - Within 3-5 days prior to entering or working at the Project site, a USFWS and CDFW-approved biologist shall perform a pre-construction survey, as specified in the Pre-Construction Survey Plan, within the boundaries of the Project plus a 500-foot buffer zone upstream and downstream of the construction area (if permitted by adjacent land owners). The survey shall include a description of any standing or flowing

water. Permittee shall provide Pre-Construction Survey notes and observations to the USFWS and CDFW prior to commencing Covered Activities.

- The Project proponent shall develop a Relocation Plan for FYLF and submit it to the USFWS and CDFW for approval prior to ground-disturbing activities. The Relocation Plan shall include what life stage(s) will be relocated (e.g., adults or egg masses) and specific protocols for each life stage. The Relocation Plan shall quantify the amount, location, and quality of suitable receiving habitat (e.g., breeding and dispersal habitat). The Relocation Plan shall include capture and handling methods specific to each life stage.
- The Project proponent shall ensure that Covered Activities involving construction and heavy equipment use (such as excavation, grading, and contouring) that are conducted in streams, ponds, and riparian areas are limited to the period from May 1 to October 15 of each year (Dry Season). Any work outside of the Dry Season shall be subject to approval of the USFWS and CDFW.
- Wildlife exclusion fencing shall be installed in accordance with the CRLF measure in **Section 6.5.1** above.
- The Project proponent shall develop a Water Diversion Plan for FYLF and submit it to CDFW for approval prior to in-stream activities. The Water Diversion Plan shall contain detailed descriptions of the water intake screening (e.g., screen material, size, cleaning method, etc.), the duration of the water diversion, how the Project proponent will ensure that aquatic life will be maintained or relocated from the dewatered area, diversion materials (unacceptable materials that are deleterious to fish and wildlife include particle board, plastic sheeting, bentonite, pressure-treated lumber, creosote, concrete, or asphalt), and monitoring methods for the diversion.

6.6 Reptiles

6.6.1 Northwestern Pond Turtle

As proposed, the Project will directly and permanently impact both ponds in which northwestern pond turtles are present. We recommend the following measures to mitigate potential impacts to this species. If the species is determined to not be eligible for listing by the USFWS at the time of start of construction, Endangered Species Act consultation with the USFWS is not required. However, coordination with CDFW will still be required as the species is a California Species of Special Concern.

- As part of the CWA Section 404 USACE permitting for the Project, the USACE will conduct formal Endangered Species Act consultation with the USFWS on potential impacts to federally-listed species or species that are proposed for listing. The Project proponent shall prepare a Biological Assessment, which will include details on potential impacts and mitigation for northwestern pond turtle, to be submitted to the USACE and the USFWS.
- If it is determined that take of northwestern pond turtle is likely to occur, the Project proponent shall abide by mitigation measures developed during the course of the Endangered Species

Act consultation. These mitigation measures could include, but are not limited to, seasonal work restrictions for initial ground disturbance, dewatering protocols, pre-construction surveys by a qualified biologist, the installation of wildlife exclusion fencing, turtle relocation, nest avoidance, biological monitoring, and worker environmental awareness training. Additional measures could include preservation, restoration, or enhancement of habitat on- or off-site, purchase of habitat credits from an agency-approved mitigation/conservation bank, working with a local land trust to preserve land, or any other method acceptable to USFWS. If the measures listed below differ from mitigation measures differ from mitigation measures included in a Biological Opinion from the USFWS, the USFWS Biological Opinion take precedence.

- Prior to the start of construction activity, the Project proponent shall submit a Pond Dewatering Plan to the USFWS and CDFW for written approval.
- Prior to the start of construction activity, the Project proponent shall submit a Northwestern Pond Turtle Trapping and Relocation Plan to the USFWS and CDFW for written approval. The relocation plan shall include the names of the biologist(s) that will conduct the turtle trapping and relocation, trapping methods, and proposed relocation areas within the vicinity of the Project. As many northwestern pond turtles as possible will be relocated from the onsite ponds prior to pond removal activities.
- Wildlife exclusion fencing shall be installed around the onsite ponds prior to turtle trapping or pond removal activities.
- A qualified biologist shall be present during any work that may harm northwestern pond turtle. The qualified biologist shall have the authority to stop work within the vicinity of a northwestern pond turtle.

6.6.2 Coast (Blainville's) Horned Lizard

There is a low potential for Blainville's horned lizard to occur within the Study Area. However, if the species were present at the time of construction, activity could result in direct harm to individual coast horned lizards. In order to avoid direct mortality to this species, the following measure is recommended:

- Within 14 days prior to the initiation of any construction activity, a qualified biologist shall conduct preconstruction surveys for coast (Blainville's) horned lizard in appropriate habitats. If Blainville's horned lizard is found during the survey, a qualified biologist shall relocate the individuals to suitable habitat outside of the Project area, subject to review and approval by CDFW and/or El Dorado County.

6.7 Nesting Birds

Project construction will require the removal of vegetation that provides nesting habitat for migratory bird species, including special-status species such as tricolored blackbird, grasshopper sparrow, golden eagle, white-tailed kite, yellow-breasted chat, loggerhead shrike, and California black rail. If birds are nesting in the Project impact area at the time of construction, activity could disturb nesting birds, resulting in the loss

of eggs or young or nest abandonment. In order to prevent potential disturbance and/or direct effects to active nests, we recommend the following measure:

- If ground disturbance or other construction activities are proposed during the bird nesting season (February 1 – August 31), a focused survey for nesting raptors and migratory bird nests shall be conducted by a qualified biologist within 14 days prior to the beginning of construction activities in order to identify active nests. This survey shall be conducted within the proposed construction area and all accessible areas within the following buffer areas:
  - 0.5 mile for bald eagle and golden eagle
  - 0.25 mile for tree-nesting raptors
  - 500 feet for tricolored blackbird
  - 500 feet for all other species
- Take avoidance burrowing owl surveys of suitable habitat will be conducted consistent with the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Non-breeding season protocol will be used for surveys conducted between September 1 and January 31 and breeding season protocol will be used for surveys conducted between February 1 and August 31.
- If nests are found, the following no-disturbance buffers shall be established:
  - If active raptor nests are found, no construction activities shall take place within 0.25-mile for golden eagles or within 500 feet of other raptor nest(s) until the young have fledged.
  - If active songbird nests are found, a 100-foot no disturbance buffer will be established. These no-disturbance buffers may be reduced based on consultation and approval by the County.
  - If active tricolored blackbird nests are found, a 500 foot radius no-disturbance buffer shall be established and marked to ensure that construction activity does not encroach into the buffer area. The no-disturbance buffer may be removed, and construction may resume within the buffer area once the young have fledged.
  - If active burrowing owl burrows are found, no construction activities shall take place within 250 feet of occupied burrows, and a no-disturbance buffer shall be marked on-site. The buffer may be removed once the young have fledged and/or are no longer dependent on the nest.
- The perimeter of buffer/no-disturbance areas shall be indicated by bright orange temporary fencing. No construction activities or personnel shall enter the protected area, except with approval of the biologist. If trees containing nests or burrows must be removed as a result of Project implementation, removal shall be completed during the nonbreeding season (late September to March) if possible, or after a qualified biologist determines that the young have fledged (during the breeding season).
- If no active nests are found during the focused survey(s), no further mitigation will be required.
- Survey results shall be provided to the County within 15 days of completion of all surveys. Surveys shall be repeated if there is a break of construction of more than 14 days during the nesting season.

6.8 Roosting Bats

Because the Project requires tree removal in oak woodland areas, construction could disturb tree-roosting bat species if they are present at the time of tree removal. In order to prevent potential disturbance and/or direct effects to occupied roosts, we recommend the following measure:

- Pre-construction roosting bat surveys shall be conducted by a qualified biologist within 14 days prior to any tree removal. If no tree removal is proposed, no mitigation measures are necessary. If pre-construction surveys indicate that no roosts of special-status bats are present, or that roosts are inactive or potential habitat is unoccupied, no further mitigation is required. If roosting bats are found, exclusion shall be conducted as recommended by the qualified biologist. Methods may include acoustic monitoring, evening emergence surveys, and the utilization of two-step tree removal supervised by the qualified biologist. Two-step tree removal involves removal of all branches that do not provide roosting habitat on the first day, and the next day cutting down the remaining portion of the tree. Once the bats have been excluded, tree removal may occur.

6.9 Worker Environmental Awareness Training

Construction crews must be aware of regulations and conditions that apply to the Project and specific resources in the Study Area. We recommend that the Project proponent implement the following measure to inform construction personnel of the regulations and conditions that apply to the Project:

- Prior to any dewatering, ground-disturbing, or vegetation-removal activities, a Worker Environmental Awareness Training (WEAT) shall be prepared and administered to the construction crews. The WEAT will include the following: discussion of the state and federal Endangered Species Act, the Clean Water Act, the Project's permits and CEQA documentation, and associated mitigation measures; consequences and penalties for violation or noncompliance with these laws and regulations; identification of special-status wildlife, location of any avoided Waters of the U.S; hazardous substance spill prevention and containment measures; and the contact person in the event of the discovery of a special-status wildlife species. The WEAT will also discuss the different habitats used by the species' different life stages and the annual timing of these life stages. A handout summarizing the WEAT information shall be provided to workers to keep on-site for future reference. Upon completion of the WEAT training, workers will sign a form stating that they attended the training, understand the information presented and will comply with the regulations discussed. Workers will be shown designated "avoidance areas" during the WEAT training; worker access should be restricted to outside of those areas to minimize the potential for inadvertent environmental impacts. Fencing and signage around the boundary of avoidance areas may be helpful.

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Figure 3. Natural Resources Conservation Service Soils
Figure 4. Aquatic Resources
Figure 5. Terrestrial Vegetation Communities
Figure 6. Impacts within the On-Site Portion of the Study Area
Figure 7. Potential Impacts in the Off-Site Infrastructure Area

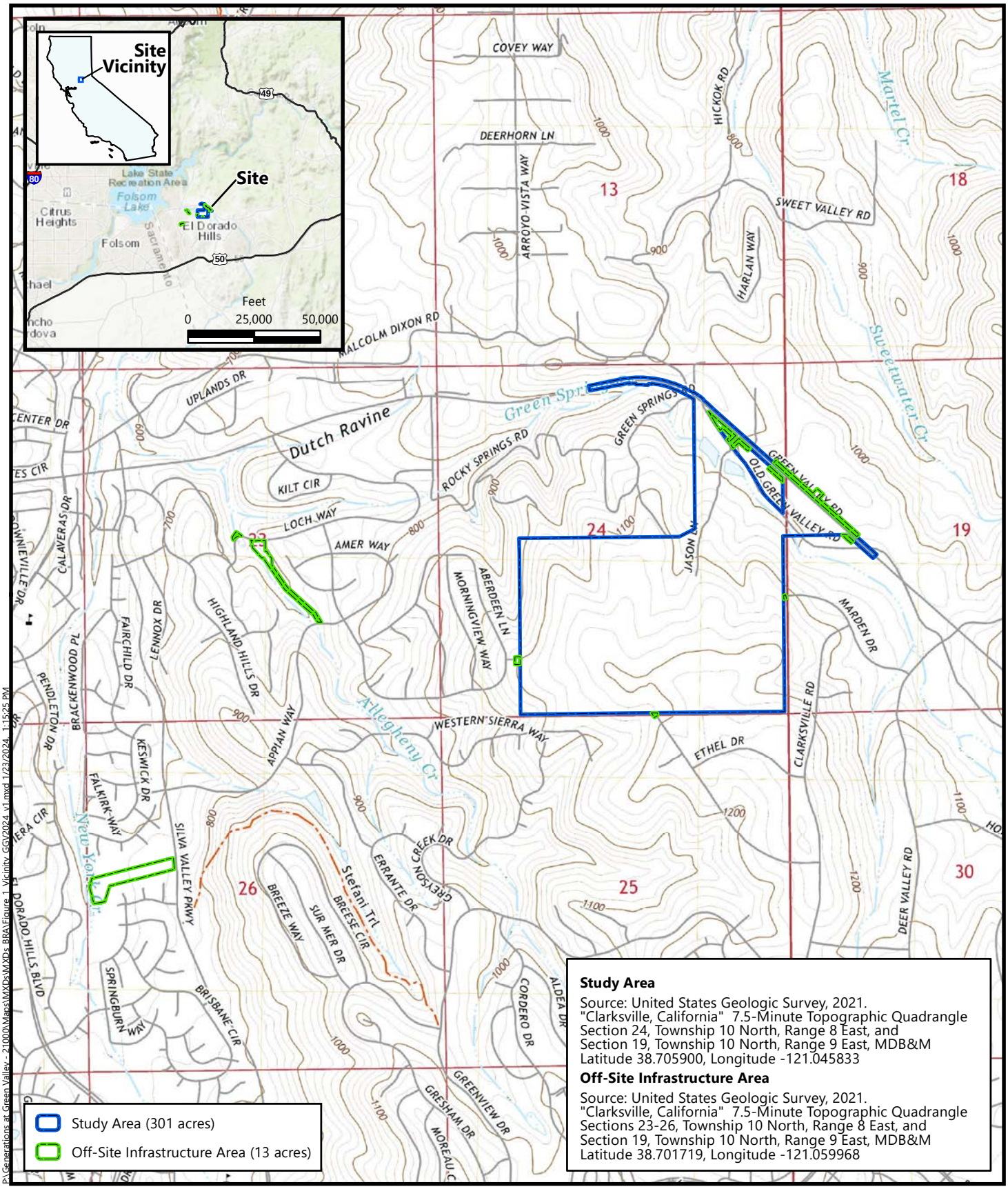

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Figure 1
Site and Vicinity

Generations at Green Valley
El Dorado County, California

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Source: United States Geologic Survey, 2021.

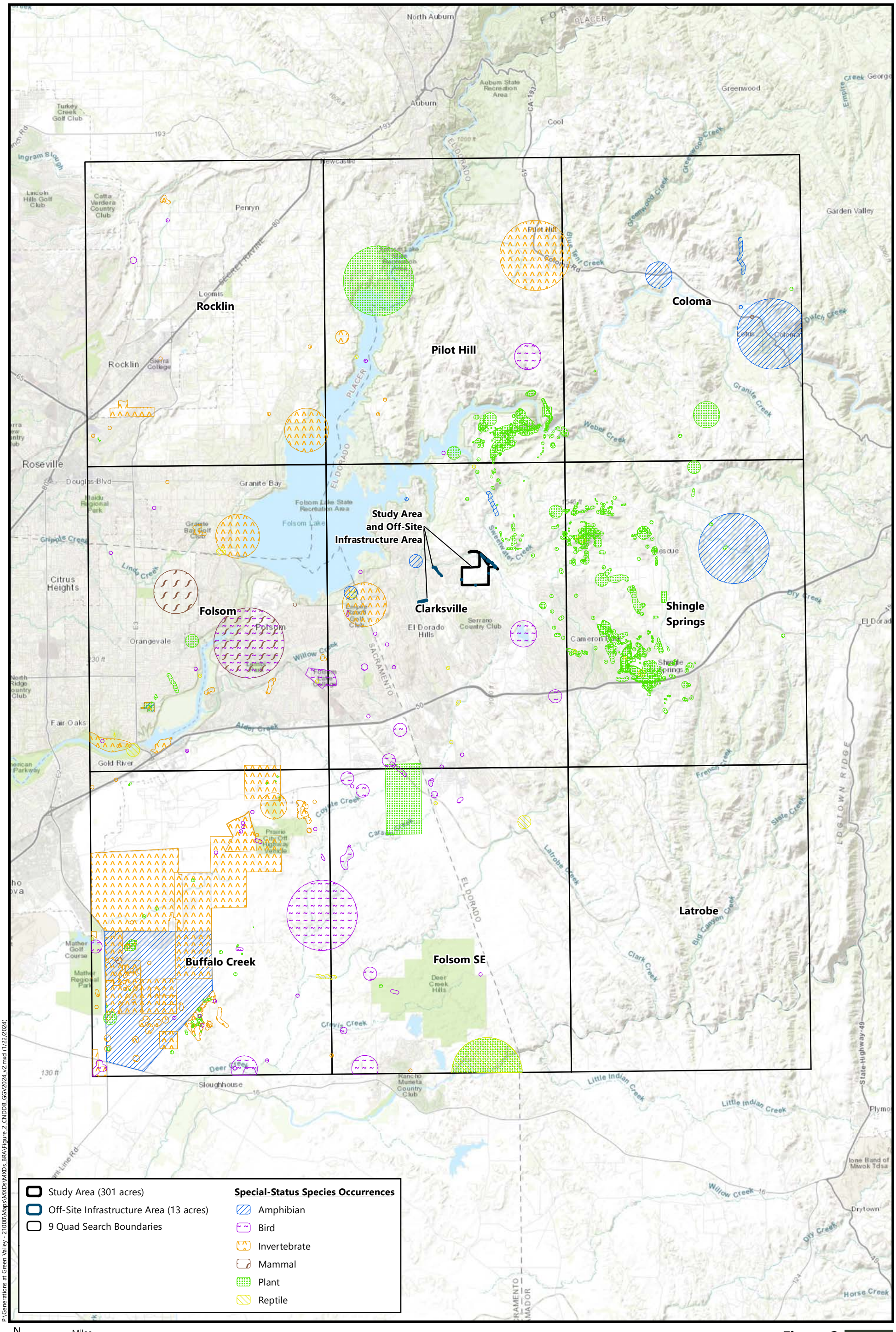
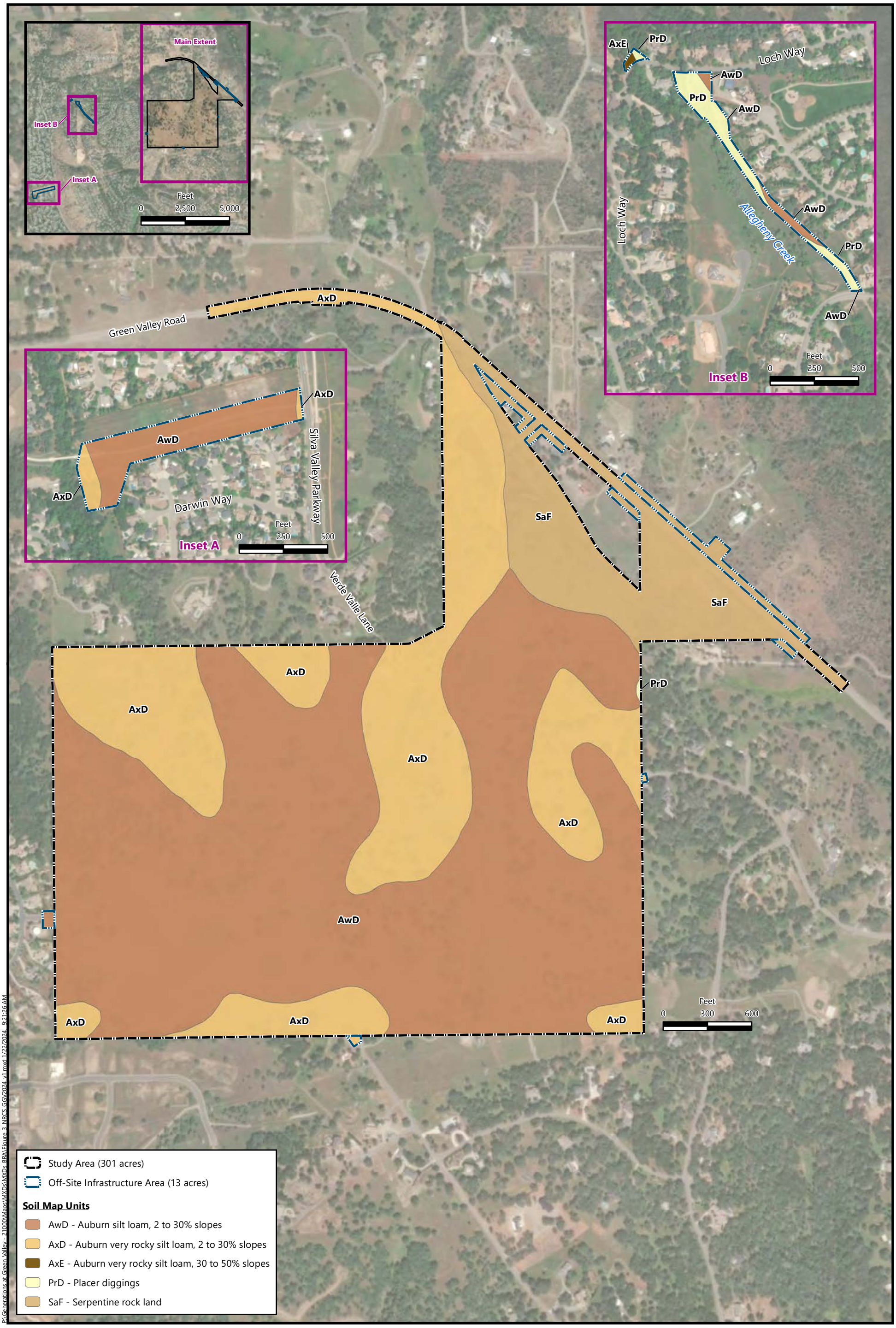


Figure 2
California Natural Diversity Database Occurrences of Special-Status Species
Generations at Green Valley
El Dorado County, California

Source: California Department of Fish and Wildlife, January 2024
Basemap Source: ESRI World Topographic Map



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Soil Survey Source: *USDA, Soil Conservation Service. Soil Survey Geographic (SSURGO) database for El Dorado Area, California*
Aerial Source: Maxar, 1 May 2022.

Figure 3
Natural Resources Conservation Service Soils

Generations at Green Valley
El Dorado County, California

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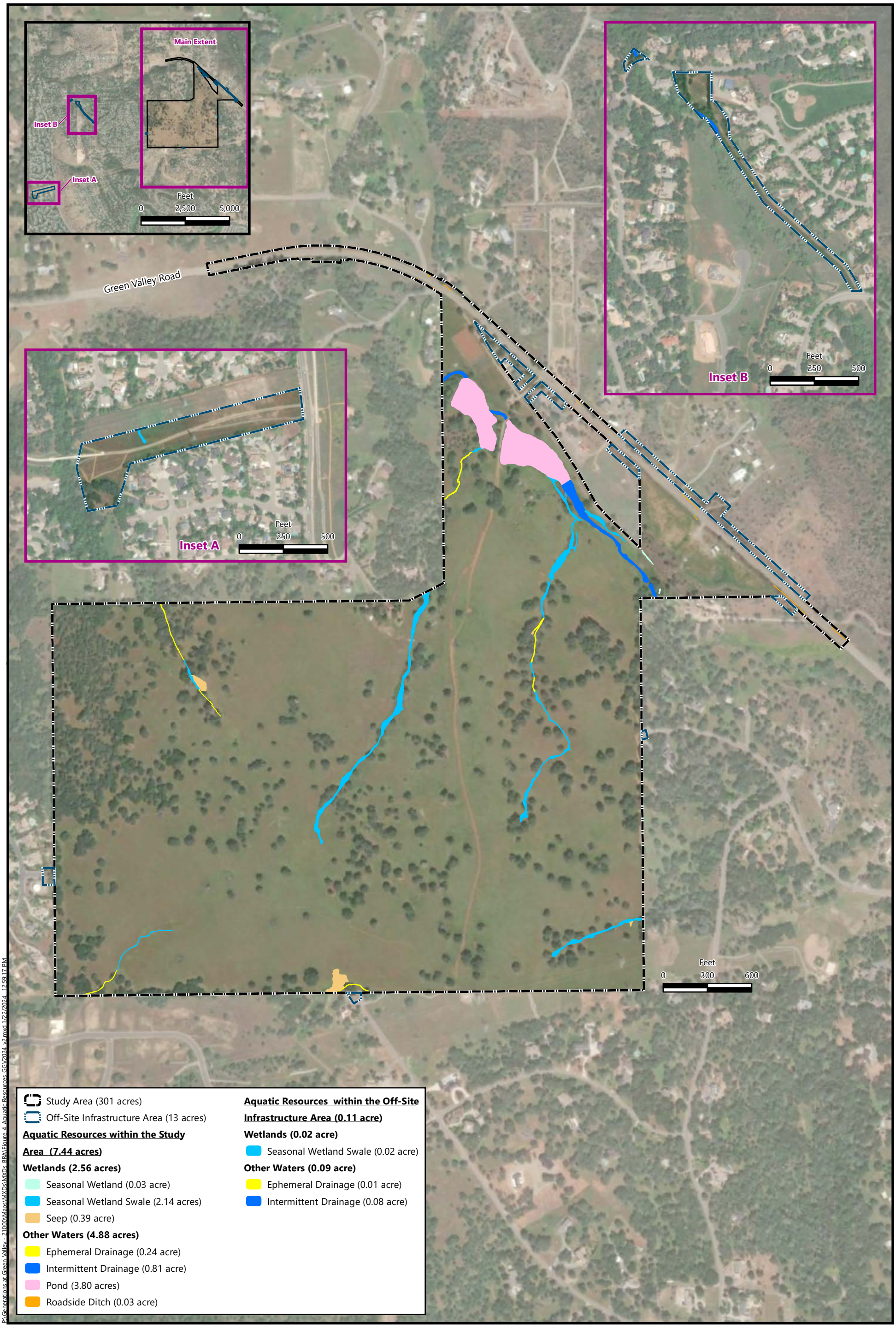

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Note: Small summation errors may occur due to rounding.
Aerial Source: Maxar, 1 May 2022.

Figure 4
Aquatic Resources

Generations at Green Valley
El Dorado County, California

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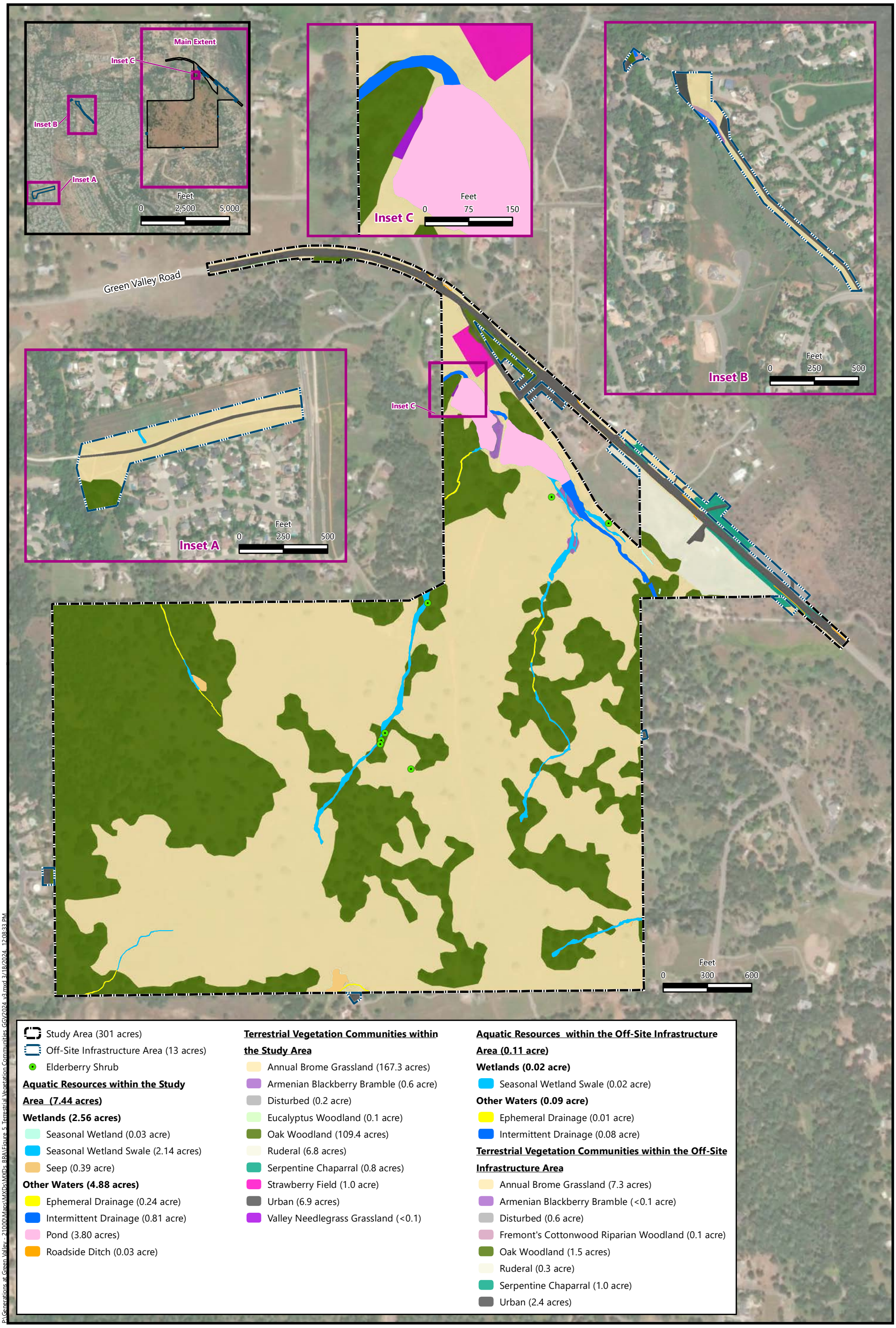
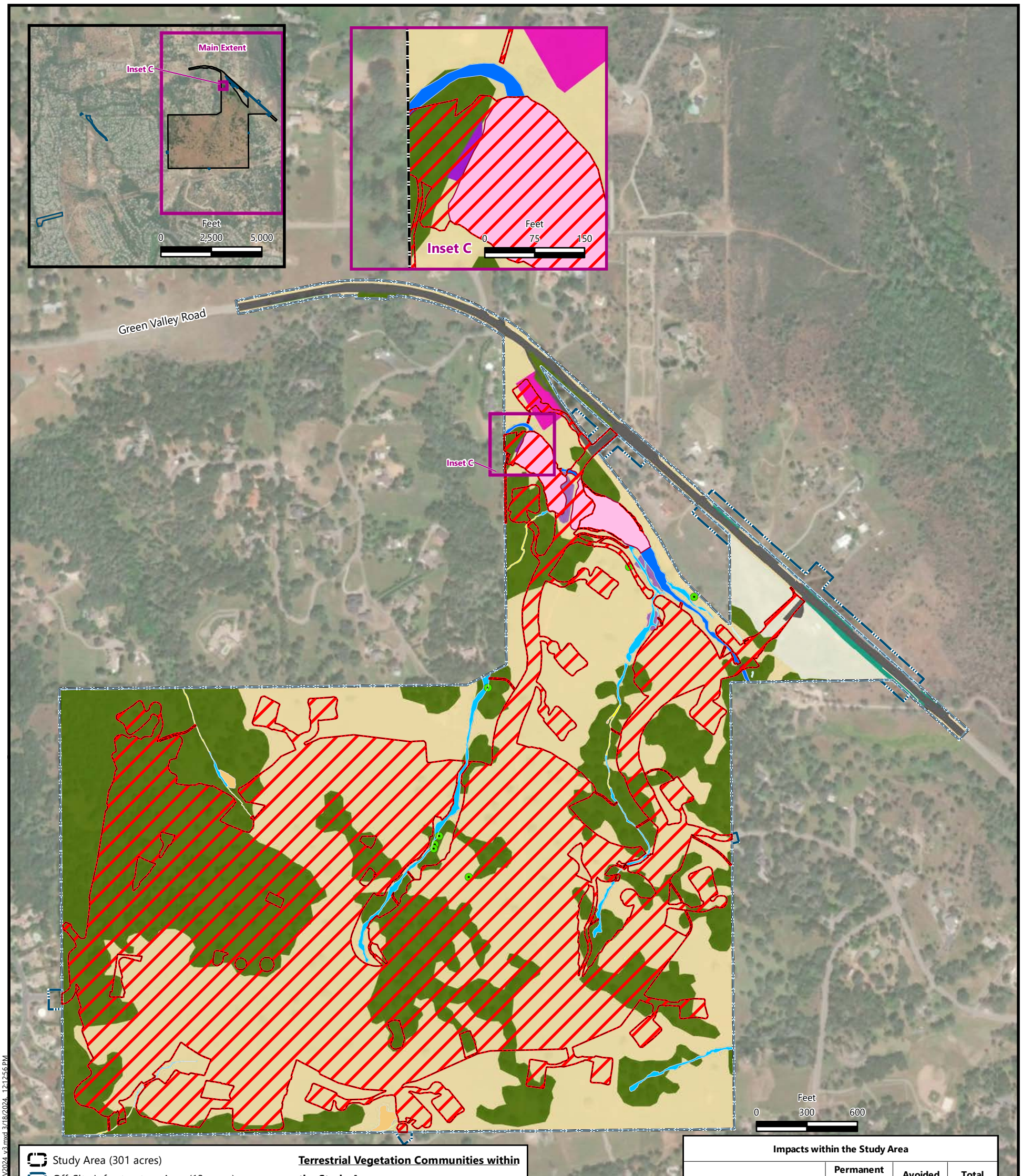


Figure 5
Terrestrial Vegetation Communities

Generations at Green Valley
El Dorado County, California

Note: Small summation errors may occur due to rounding.
Aerial Source: Maxar, 1 May 2022.



Study Area (301 acres)
Off-Site Infrastructure Area (13 acres)
Permanent Impact Area (165 acres)
Avoided Area (136 acres)
Permanently Impacted Aquatic Resources
Avoided Aquatic Resources
Elderberry Shrub

Aquatic Resources within the Study Area (7.44 acres)

Wetlands (2.56 acres)
- Seasonal Wetland (0.03 acre)
- Seasonal Wetland Swale (2.14 acres)
- Seep (0.39 acre)

Other Waters (4.88 acres)
- Ephemeral Drainage (0.24 acre)
- Intermittent Drainage (0.81 acre)
- Pond (3.80 acres)
- Roadside Ditch (0.03 acre)

Terrestrial Vegetation Communities within the Study Area
- Annual Brome Grassland (167.3 acres)
- Armenian Blackberry Bramble (0.6 acre)
- Disturbed (0.2 acre)
- Eucalyptus Woodland (0.1 acre)
- Oak Woodland (109.4 acres)
- Ruderal (6.8 acres)
- Serpentine Chaparral (0.8 acres)
- Strawberry Field (1.0 acre)
- Urban (6.9 acres)
- Valley Needlegrass Grassland (<0.1)

Impacts within the Study Area

Aquatic Resources Type	Permanent Impact (acres)	Avoided (acres)	Total Acreage
Seasonal Wetland	0.00	0.03	0.03
Seasonal Wetland Swale	0.00	2.14	2.14
Seep	0.00	0.39	0.39
Ephemeral Drainage	0.00	0.24	0.24
Intermittent Drainage	0.05	0.76	0.81
Pond	2.25	1.55	3.80
Roadside Ditch	<0.01	0.03	0.03
Total Aquatic Resources:	**2.30**	**5.14**	**7.44**

Terrestrial Vegetation Communities	Permanent Impact (acres)	Avoided (acres)	Total Acreage
Annual Brome Grassland	106.0	61.3	167.3
Armenian Blackberry Bramble	0.3	0.3	0.6
Disturbed	0.0	0.2	0.2
Eucalyptus Woodland	0.0	0.1	0.1
Oak Woodland	54.5	54.9	109.4
Ruderal	0.5	6.3	6.8
Serpentine Chaparral	0.0	0.8	0.8
Strawberry Field	0.4	0.6	1.0
Urban	0.5	6.4	6.9
Valley Needlegrass Grassland	<0.1	0.0	<0.1
Total:	**162.2**	**130.9**	**293.1**

Note: Small summation errors may occur due to rounding.

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Notes: Small summation errors may occur due to rounding.
Off-site impacts are presented on Figure 7
Aerial Source: Maxar, 1 May 2022.

Figure 6
Impacts within the Study Area

Generations at Green Valley
El Dorado County, California

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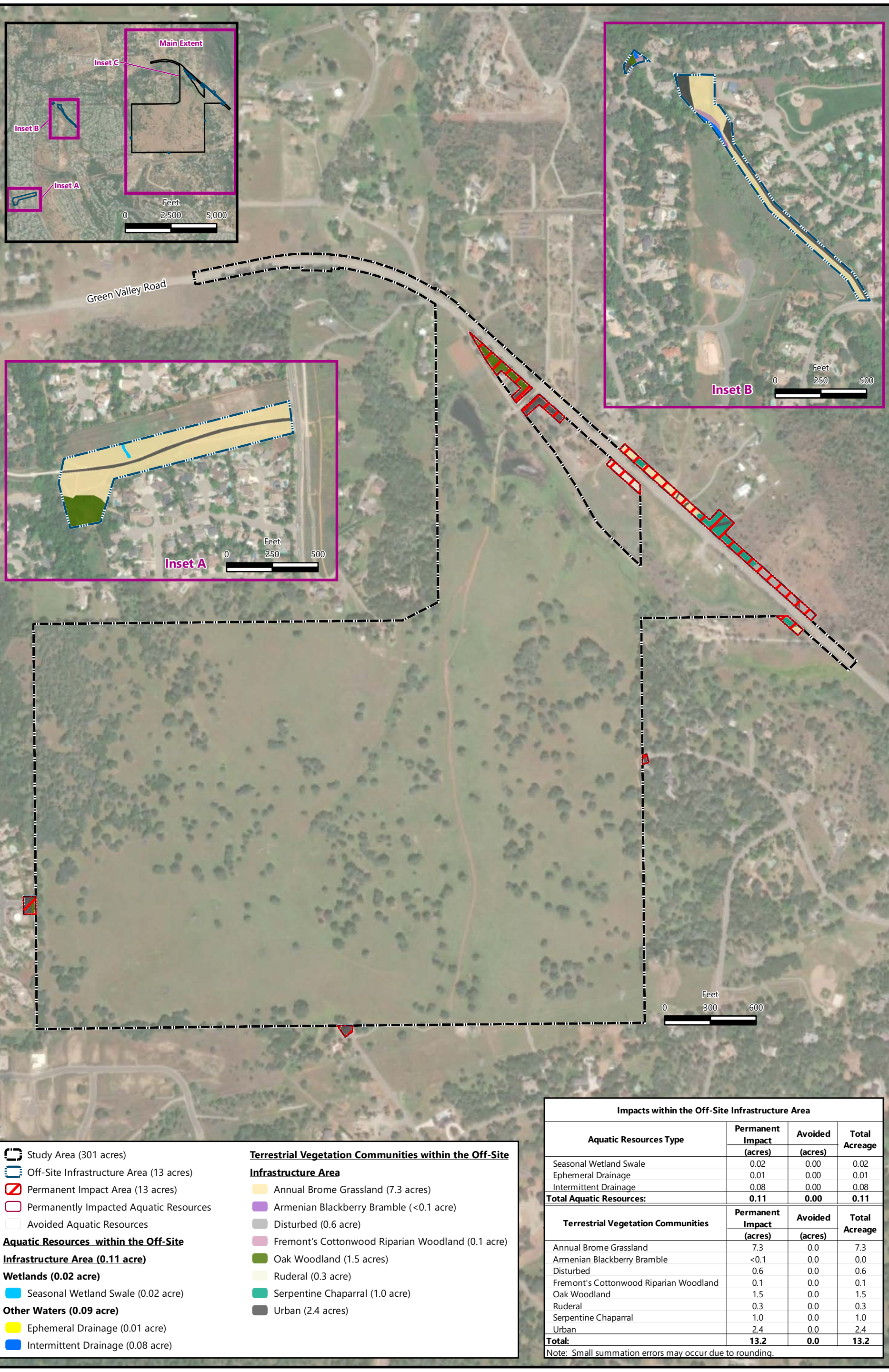

Impacts within the Off-Site Infrastructure Area

Aquatic Resources Type	Permanent Impact (acres)	Avoided (acres)	Total Acreage
Seasonal Wetland Swale	0.02	0.00	0.02
Ephemeral Drainage	0.01	0.00	0.01
Intermittent Drainage	0.08	0.00	0.08
Total Aquatic Resources:	**0.11**	**0.00**	**0.11**

Terrestrial Vegetation Communities	Permanent Impact (acres)	Avoided (acres)	Total Acreage
Annual Brome Grassland	7.3	0.0	7.3
Armenian Blackberry Bramble	<0.1	0.0	0.0
Disturbed	0.6	0.0	0.6
Fremont's Cottonwood Riparian Woodland	0.1	0.0	0.1
Oak Woodland	1.5	0.0	1.5
Ruderal	0.3	0.0	0.3
Serpentine Chaparral	1.0	0.0	1.0
Urban	2.4	0.0	2.4
Total:	**13.2**	**0.0**	**13.2**

Note: Small summation errors may occur due to rounding.

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Figure 7
Impacts within the Off-Site Infrastructure Area

Note: Small summation errors may occur due to rounding.
Aerial Source: Maxar, 1 May 2022.

Generations at Green Valley
El Dorado County, California

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Attachments

Attachment A: Preliminary Project Plans

Attachment B. CNDDB Query Results for the "Clarksville, California" Quadrangle and Eight Surrounding Quadrangles

Attachment C. IPaC Trust Resource Report for the Study Area

Attachment D. CNPS Inventory of Rare and Endangered Plants Query for the "Clarksville, California" Quadrangle and Eight Surrounding Quadrangles

Attachment E. Wildlife Species Observed in the Study Area

Attachment F. Aquatic Resources Delineation Map

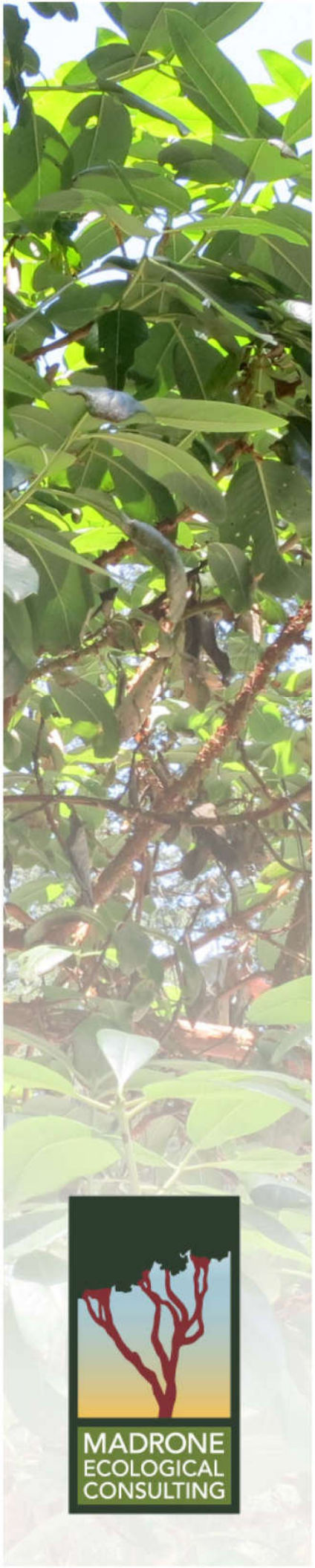
Attachment G. Survey Results: California Red-Legged Frog and California Tiger Salamander

Attachment H. Oak Woodland Assessment

Attachment I. Special-Status Plant Survey Report

Attachment G

Survey Results: California Red-Legged Frog and California Tiger Salamander



California Red-legged Frog Habitat Assessment and Visual Encounter Survey Report

Generations at Green Valley

El Dorado County
26 January 2024

MADRONE ECOLOGICAL CONSULTING

Prepared for:
Green Valley Road Benefits, LLC
110 Blue Ravine Road, Suite 209
Folsom, CA 95630

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Attachment A: Qualifications of Surveyor
Attachment B: Representative Site Photographs
Attachment C: Habitat Assessment Data Form
Attachment D: Survey Data Sheets

1.0 INTRODUCTION

1.1 Purpose of This Assessment and Surveys

At the request of Green Valley Road Benefits, LLC, Madrone Ecological Consulting, LLC (Madrone) conducted a habitat assessment and visual encounter surveys the federally-threatened California red-legged frog (*Rana aurora*)(CRLF) for the ±314-acre Generations at Green Valley project area (Study Area) in El Dorado County, California. The Study Area is proposed for residential development. The purpose of the habitat assessment and visual encounter surveys is to determine the presence or presumed absence of CRLF within the Study Area. This assessment was prepared in accordance with the *Revised Guidance on Site Assessment and Field Surveys for California Red-Legged Frogs* (USFWS 2005).

In April of 2013 Eric C. Hansen completed a CRLF habitat assessment for the Study Area (Hansen 2013). Visual encounter surveys were conducted within the two large onsite ponds by biologist Adam Johnson (employee of Eric Hansen) from May through July of 2016 (Hansen 2016). No CRLF were identified during these surveys.

It should be noted that the 2016 surveys were conducted in the summer only and did not include surveys that were timed (January through March) to observe egg masses. Since these surveys were conducted, the number of surveys required by the USFWS has increased, the Study Area has changed to add offsite utility improvements, and lastly the results of these surveys are typically valid for only two years. Due to these reasons, Madrone conducted an updated habitat assessment and visual encounter surveys.

1.2 Study Area

The 314-acre Generations at Green Valley overall study area (Study Area), which includes a 301-acre on-site subdivision development area and 13-acres of off-site infrastructure developments that may be impacted as a result of Project construction, is generally located along and south of Green Valley Road in unincorporated El Dorado County, California. The on-site portion of the Study Area is located at 3200 Verde Valle Road (APN 126-020-001) within portions of Section 19, Township 10 North, Range 9 East (MDB&M) and Section 24, Township 10 North, Range 8 East of the "Clarksville, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2021) (**Figure 1**). Off-site infrastructure areas include (1) areas adjacent to the on-site portion of the Study Area along Green Valley Road and western and southern on-site access points (referred to as off-site adjacent areas); (2) an area approximately 0.6 mile west of the on-site portion along an El Dorado Irrigation District (EID) sewer easement and at a sewer lift station between Appian Way and Loch Way (referred to as the northwestern off-site area throughout this document); and (3) an area approximately 1.1 mile southwest of the on-site portion along a Sacramento Municipal Utility District (SMUD) easement that currently follows an existing paved bike trail (referred to as the southwestern off-site area throughout this document).

1.3 Environmental Setting

The Study Area is located on rolling terrain and mostly consists of annual brome grassland and blue oak woodlands. A narrow band of willow riparian scrub occurs along a seasonal wetland swale in the central portion of the Study Area, and two large ponds occur in the northern portion along the intermittent Green Spring Creek. The average annual precipitation for the Study Area is 33.88 inches (WRCC 2021).

The Study Area is primarily composed of undeveloped land. One uninhabitable old homestead and associated outbuildings is present within the northern portion of the Study Area near the ponds and several private, low-use dirt roads occur scattered throughout the Study Area.

The majority of the Study Area supports oak woodland composed chiefly of valley oaks (*Quercus lobata*), live oaks (*Quercus wislizenii*), and blue oaks (*Quercus douglasii*). The understory consists of dogtail grass (*Cynosurus echinatus*), wild oats (*Avena* sp.), rip-gut brome (*Bromus diandrus*), medusa head (*Elymus caput-medusae*), and soft chess (*Bromus hordeacious*).

The annual brome grasslands are dominated by rip-gut brome, medusa head, and soft chess. Other associated species include yellow start-thistle (*Centaurea solstitialis*), Mediterranean barley (*Hordeum murinum*), and split-leaf geranium (*Geranium dissectum*). Some patches of the annual brome grassland support a diverse suite of native forbs, including hyacinth brodiaea (*Triteleia hyacinthina*), Valley sky lupine (*Lupinus nanus*), blue dicks (*Dichelostemma capitatum*), and field popcorn flower (*Plagiobothrys fulvus*).

Off-site infrastructure study areas range between a low of about 670 feet above mean sea level for the northwestern off-site area to about 1,050 for off-site area adjacent to the main portion of the Study Area. The northwestern off-site area is primarily comprised of a gravel access road with adjacent annual brome grassland. The northern portion of this area includes a reach of the intermittent Alleghany Creek and its adjacent Fremont cottonwood riparian woodland. An area of residential landscaping also occurs within this off-site area. The northwestern off-site area includes a lift station site on the north/west side of Loch Way. This urban area supports a pump station, a small area of interior live oak woodland just east of the lift station, and a short reach of Alleghany Creek with associated Fremont cottonwood riparian woodland on the eastern side.

The southwestern off-site area is almost entirely comprised of a transmission line corridor. An asphalt recreational trail with broad decomposed granite shoulders winds through the center, and the remainder is largely comprised of an annual brome grassland. The exception is an area of interior live oak woodland in the southern portion of this off-site area.

The majority of the on-site Study Area generally drains to the north/northeast into Green Spring Creek. Green Spring Creek, which traverses the northern portion of the Study Area from east to west, is tributary to Folsom Lake by way of New York Creek. The southwestern corner of the Study Area appears to drain to the south and into Allegheny Creek, which is also a tributary to Folsom Lake by way of Green Spring Creek and New York Creek, respectively.

The Study Area supports seven types of aquatic features: seeps, seasonal wetland swales, seasonal wetlands, ponds, intermittent drainage (Green Spring Creek), ephemeral drainage, and roadside ditch (**Figure 2** and **Table 1**). A description of aquatic resources mapped within the Study Area follows.

Table 1. Aquatic Resources in the Study Area

Resource Type	Amount in On-Site Study Area (acres)	Amount in Off-Site Study Areas (acres)	Total in Study Area (acres)
Wetlands			
Seep	0.39	–	0.39
Seasonal Wetland Swale	2.14	0.02	2.16
Seasonal Wetland	0.03	–	0.03
Wetlands Total	***2.56***	***0.02***	***2.58***
Other Waters			
Ephemeral Drainage	0.24	0.01	0.25
Intermittent Drainage	0.81	0.08	0.89
Pond	3.80	–	3.80
Roadside Ditch	0.023	–	0.02
Other Waters Total	***4.88***	***0.09***	***4.96***
GRAND TOTAL	**7.44**	**0.11**	**7.54**

Summation errors may occur due to rounding.

1.4 Species Biology, Habitat, and Distribution

CRLF was federally listed under the Endangered Species Act as threatened on June 24, 1996 (USFWS 1996). Among the native frog species of the western United States, CRLF is the largest (Wright and Wright 1949), measuring 1.5 to 5.1 inches (in) in length (Stebbins 2003). Adult individuals are characterized by prominent dorsolateral folds on their back region with spots that have light centers (Stebbins 2003). Individual frogs typically have red or orange abdomens and hind legs, with small black flecks and irregular dark blotches with brown, gray, olive or reddish indistinct outlines across the dorsal surface. Larval body lengths range from 14 to 80 millimeters (mm) (0.6 to 3.1 in) with a body background color of dark brown or olive green, to yellow with dark spots (Storer 1925).

CRLF habitat is characterized by riparian vegetation associated with slow-moving water that is relatively deep (>0.7 meters [m]). Emergent and edge vegetation requirements are highly variable and include willow (*Salix* sp.), cattails, and bulrushes (*Schoenoplectus* spp.) providing appropriate habitat (Jennings and Hayes 1994). Adults can be found in both ephemeral and perennial streams and ponds; although stable populations require permanent freshwater (salinity ≤4.5%) water sources for the larval life stage (Jennings and Hayes 1994). Riparian vegetation and mammal burrows near water sources also provide refuge to estivating adults (USFWS 1996). Adults may utilize mammal burrows, desiccation cracks on pond bottoms, or dense vegetation and debris piles when aquatic breeding habitat dries (Alvarez 2004).

Adults breed from November through March, with females laying 500 to 5,000 eggs within large, gelatinous egg masses attached to submergent or emergent vegetation (Alvarez et al. in press). Eggs hatch 6 to 14 days after deposition, with larvae undergoing metamorphosis 3.5 to 7 months after hatching. Eggs and larvae are intolerant of salinity, with egg mortality reaching 100 percent in water with salinity levels greater than 4.5 parts per thousand (ppt), and larvae when exposed to salinity levels higher than 7 ppt (USFWS 1996).

The range of CRLF historically occurred in 46 counties throughout California, including areas of the Central Valley floor, Sierra Nevadan foothills, and Coast Ranges. Historically, the species extended as far north as Shasta County and down to Baja California in the southern end of its range (Jennings and Hayes 1994). Currently, CRLF is found in 22 counties, with significant populations found in coastal drainages between Point Reyes (Marin County) and Santa Barbara (Santa Barbara County) (Jennings and Hayes 1994). CRLF intergrades with northern red-legged frog (*Rana aurora*) in Mendocino County, CA (Hayes and Miyamoto 1984, Shaffer et al. 2004). CRLF have been extirpated from almost the entire Central Valley with some populations remaining in the Tracy/Mountain House area. There are very few extant populations of CRLF remaining within the Sierra Nevada Foothills. The nearest known extant population to the Study Area is near Pollock Pines in El Dorado County and in the town of Michigan Bluff in Placer County. These populations are over 20 miles east and northeast of the Study Area (**Figure 3**). See Section 3.2 below for additional information on nearby observations of CRLF.

1.5 Critical Habitat

On 17 March 2010, USFWS published a final rule revising the designation of Critical Habitat for CRLF [Federal Register Vol. 75, No. 51:12816]. Critical habitat was designated in 22 counties within California, for a total of ±1,636,609 acres (662,312 hectares).

Based upon the current knowledge of the life history, biology, and ecology of CRLF, Critical Habitat requires the following Primary Constituent Elements (PCEs):

1. *Aquatic Breeding Habitat:* Standing bodies of fresh water (with salinities less than 4.5 ppt), including natural and manmade (e.g., stock) ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years.
2. *Aquatic Non-Breeding Habitat:* Freshwater pond and stream habitats, as described above, that may not hold water long enough for the species to complete its aquatic life cycle but which provide for shelter, foraging, predator avoidance, and aquatic dispersal of juvenile and adult California red-legged frogs. Other wetland habitats considered to meet these criteria include, but are not limited to: plunge pools within intermittent creeks, seeps, quiet water refugia within streams during high water flows, and springs of sufficient flow to withstand short-term dry periods.
3. *Upland Habitat:* Upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of 1 mi (1.6 km) in most cases (i.e., depending on surrounding landscape and dispersal barriers) including various vegetational types such as grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance for the California red-legged frog. Upland features are also essential in that they are needed to maintain the hydrologic, geographic, topographic, ecological, and edaphic features that support and surround the aquatic, wetland, or riparian habitat. These upland features contribute to: (1) Filling of aquatic, wetland, or riparian habitats; (2) maintaining suitable periods of pool inundation for larval frogs and their food sources; and (3) providing non- breeding, feeding, and sheltering habitat for juvenile and adult frogs (e.g., shelter, shade, moisture, cooler temperatures, a prey base, foraging opportunities, and areas for predator avoidance). Upland habitat should include structural features such as boulders, rocks and organic debris (e.g., downed trees, logs), small mammal burrows, or moist leaf litter.
4. *Dispersal Habitat:* Accessible upland or riparian habitat within and between occupied or previously occupied sites that are located within 1 mi (1.6 km) of each other, and that support movement between such sites. Dispersal habitat includes various natural habitats, and altered habitats such as

agricultural fields, that do not contain barriers (e.g., heavily traveled roads without bridges or culverts) to dispersal. Dispersal habitat does not include moderate- to high-density urban or industrial developments with large expanses of asphalt or concrete, nor does it include large lakes or reservoirs over 50 ac (20 ha) in size, or other areas that do not contain those features identified in PCE 1, 2, or 3 as essential to the conservation of the species.

2.0 HABITAT ASSESSMENT METHODS

The site assessment followed guidance provided in USFWS' *Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog* (USFWS 2005).

Prior to the field site assessment, a review of the known records of the species was conducted. The California Natural Diversity Database's (CNDDB's) Biogeographic Information and Observation System online mapping tool (CDFW 2021) was used to identify records of CRLF within 1.0 mile (1.6 km) of the Study Area, which represent known occurrences in the vicinity of the Study Area. Records within 3.1 miles (5 km) of the Project site were also identified, as recommended in the Protocols in order to place the Project site in a regional perspective.

The habitat assessment was conducted for the on-site portion on 5 November 2021 and for the off-site portion on 19 January 2024 by Madrone biologist Dustin Brown. See **Attachment A** for surveyor qualifications. Aquatic habitats and adjacent uplands were evaluated for their potential to support breeding, foraging, dispersal and refugia or aestivation habitat. During the site visits, all wetlands located within the Study Area were visited and assessed for the potential to provide suitable aquatic habitat for CRLF. Habitat assessments were completed for aquatic features that could potentially pond water through the spring and early summer, as well as adjacent uplands surrounding such aquatic features. Three aquatic features within the Study Area were determined to pond for extended periods, and as such, were evaluated during field surveys: Pond 1, Pond 2, and Seep 4 (**Figure 4**). Field-based habitat assessments were conducted by walking the perimeter of the wetland features and through adjacent upland areas. Variables observed and recorded included habitat type, size, approximate depth, substrate, location, plant assemblages, presence of potential refugia, and general hydrology notes.

Potential aquatic habitats for CRLF within 1.0 mile of the Study Area were also assessed for potential to provide suitable habitat to CRLF. The off-site areas were assessed via aerial photograph as these areas were on private property.

3.0 HABITAT ASSESSMENT RESULTS

3.1 Range and Critical Habitat

The Study Area is located within the current range of CRLF. There is no critical habitat for CRLF within 3.1 miles of the Study Area. The nearest Critical Habitat (Unit ELD-1) is located approximately 20 miles east of the Study Area (**Figure 3**).

3.2 Documented Occurrences

There are no documented occurrences of CRLF within 1.0 mile of the Study Area. There is one unverified observation of CRLF located approximately 2.6 miles northwest of the Study Area along Folsom Lake (CNDDB Occurrence Number 814). This observation consists of a single "red" frog observed jumping off of

a pedestrian bridge into a creek by a State Parks employee. Several amphibian biologists have searched this area through the years in order to determine whether there is a population of CRLF in the vicinity but no CRLF have been observed (CDFW 2021) this observation is assumed to be a misidentification.

There are two occurrences of CRLF (CNDDB Occurrence Numbers 1284, 1317, and 1377) located approximately 14 miles northeast and southeast of the Study Area. There is a large known population of CRLF located within the town of Michigan Bluff (CNDDB Occurrences 446 and 890) approximately 25 miles northeast of the Study Area. There is a known population of CRLF located within Webber Creek and Spivey Reservoir (CNDDB Occurrence Number 586) approximately 22 miles east of the Study Area (CNDDB 2021)(**Figure 3**).

3.3 On-Site Habitat

There are three aquatic resources (Pond 1, Pond 2, and Seep 4) within the Study Area that represent potential aquatic breeding habitat for CRLF. Green Spring Creek (intermittent drainage) and Allegheny Creek within the Study Area represent potential dispersal habitat for CRLF. Please see below for descriptions of each of the aquatic features that were included in this assessment. See **Figure 4** for locations of these features and see **Attachment B** for photographs of each feature. See **Attachment C** for site assessment data form.

3.3.1 Pond 1

Pond 1 is located along Green Spring Creek within the northern portion of the Study Area. This pond is an in-stream stock pond that was manmade and contains an earthen dam with a rock and mortar spillway. The surface area of this pond is approximately 500 feet by 200 feet at maximum inundation and maximum depth is approximately 8 feet. Emergent vegetation is abundant, covering approximately 30 percent of the surface, and consists of bullrush. Approximately 20 percent of the shoreline along the southeast bank is vegetated with blackberry brambles and the rest of the shoreline is vegetated by annual grasses and forbs. Pond 1 is surrounded by annual grassland that is cattle grazed. This feature was full at the time of the survey and was being fed by Green Spring Creek at a rate of approximately 0.5 cubic feet per second. The water was clear and no fish or turtles were observed within the pond. No wading birds were foraging in Pond 1 as this feature dried in the summer and fall of 2021 and no fish are present. Signs of recent high flashy flows were observed along the northern shore of this pond. It appeared that the large storm in mid-October that dropped over seven inches of rain in two days caused the creek to flow at a very high rate and raise the level of the pond by as much as three feet above the ordinary high water mark. This pond appears to be semi-perennial and dries during below average rain years.

3.3.2 Pond 2

Pond 2 is located along Green Spring Creek approximately 50 feet downstream of Pond 1. Similar to Pond 1, Pond 2 is an in-stream stock pond that was manmade and contains an earthen dam with a spillway. Surface area of this pond is approximately 450 feet by 160 feet at maximum inundation and maximum depth is approximately 10 feet. Emergent vegetation is moderately abundant covering approximately 25 percent of the surface and consists of bullrush and young willows. Approximately 60 percent of the shoreline is vegetated with bullrush, 20 percent is vegetated with blackberry brambles, and the rest of the shoreline is vegetated by annual grasses and forbs. Pond 2 is surrounded by annual grassland and oak savannah that is cattle grazed to the south and east and a strawberry farm and rural residential properties to the north and west. This feature was full at the time of the survey and was being fed by Green Spring Creek at a rate

of approximately 0.5 cubic feet per second. The water was clear and mosquito fish (*Gambusia affinis*) was observed within the pond. Also, a great blue heron (predatory wading bird) was observed foraging in Pond 2 meaning that fish are present. This pond appears to be perennial and may support predatory game fish.

3.3.3 Seep S-4

Seep S-4 is located within the northeastern portion of the Study Area along an ephemeral drainage situated within an oak savannah. This seep is a natural feature that has been excavated to form a perennial pool. Stacked stone was used to create a spring box and the box also contains a dilapidated timber and corrugated steel covering. Surface area is approximately 8 feet by 12 feet at maximum inundation and maximum depth is approximately 3 feet. No vegetation was observed in the seep. This feature was observed to contain water during the summer of 2021 (very dry year) and is likely perennial. The seep is also used to supply water to cattle troughs approximately 70 feet downstream of the seep. The seep represents potential CRLF breeding and dispersal/refugia habitat.

3.3.4 Intermittent Drainage - Green Spring Creek

Green Spring Creek within the Study Area is a rocky seasonal stream that flows during the rainy season and for portions of the spring and early summer. It is likely dry by mid to late summer. This creek contains riffle and run habitats with no main channel pools or thick riparian vegetation. Flows within Green Spring Creek are likely flashy during rain events. No suitable CRLF breeding or refugia habitat was observed within Green Spring Creek within the Study Area. This creek may serve as migration/dispersal habitat for CRLF.

3.3.5 Intermittent Drainage - Allegheny Creek

Allegheny Creek within the Study Area is a rocky seasonal stream that flows during the rainy season and for portions of the spring and early summer. It is likely dry by mid to late summer. This creek contains riffle and run habitats with no main channel pools. Dense willow and blackberry riparian vegetation line the banks of the creek. Flows within Allegheny Creek are likely flashy during rain events. No suitable CRLF breeding habitat was observed within Allegheny Creek within the Study Area. This creek may serve as migration/dispersal habitat for CRLF.

3.3.6 Other Aquatic Resources

Other aquatic resources located within the Study Area include seasonal wetlands, seasonal wetland swales, seeps, ephemeral drainages, and roadside ditches. These features were assessed for the potential to provide aquatic habitat, be it breeding, refugia, or dispersal habitat, for CRLF. The other aquatic resources within the Study Area are very shallow and do not contain water for long enough periods to provide suitable aquatic habitat for CRLF.

3.4 Off-Site Habitat

Potential habitat for CRLF within 1-mile of the Study Area was identified by aerial photograph. A total of eight aquatic features representing potential breeding habitat or dispersal habitat for CRLF were identified within 1.0 mile of the Study Area. These features consist of six ponds representing potential breeding habitat for CRLF and three streams (Green Spring, New York, and Allegheny Creeks) representing potential CRLF dispersal habitat. There do not appear to be any barriers present between these aquatic features and the Study Area. Please see **Figure 4** for locations of potential off-site CRLF habitat.

3.5 Barriers to Dispersal

There are no natural or manmade barriers for CRLF dispersal within the Study Area. The nearest potential barrier is Green Valley Road located just north of the Study Area. This two-lane road may limit the dispersal of CRLF, but it is not a complete barrier and individual CRLF could cross the road.

4.0 HABITAT ASSESSMENT CONCLUSIONS

Suitable aquatic breeding habitat for CRLF was observed within the two onsite ponds and within Seep S-4 within the Study Area. Also, Green Spring and Allegheny Creeks within the Study Area represents suitable dispersal habitat for CLRF. Survey

Species known to be predators of CRLF including Centrarchids (*Lepomis* sp.) and American bullfrog (*Lithobates catesbeianus*) were observed in large numbers within the ponds, which may reduce or eliminate the potential for CRLF to be present.

Even though there is potentially suitable habitat for CRLF within the Study Area, there are no known or verified populations of CRLF within 3.1 miles of the Study Area. The nearest observation along Folsom Lake is unverified and is likely a misidentification. The nearest viable breeding populations of CRLF to the Study Area are all over 2,000 feet in elevation (substantially higher than the Study Area) and are over 15 miles away.

In conclusion, while the Study Area contains potential habitat for CRLF, the presence of bullfrogs and predatory game fish and the distance from the Study Area to verified populations of CRLF, means that the likelihood of CRLF being present within the Study Area is low.

5.0 CRLF SURVEYS

Madrone biologist Dustin Brown conducted USFWS protocol visual encounter surveys for the three aquatic resources that represent potential CRLF breeding habitat from January through July 2023. The methods and results of the surveys are included below.

5.1 CRLF Survey Methods

Eight surveys, including three daytime and five nighttime surveys were conducted according to the USFWS protocols. The surveys targeted the three aquatic resources identified in the habitat assessment as being potential CRLF breeding habitat and included the two large ponds and Seep 4. Mr. Brown conducted a pedestrian visual encounter survey of each of the targeted aquatic features. The surveys were assisted by binoculars (Pentax 8x43 DCF SP) as well as Nite Light headlamp and Streamlight Strion HPL handheld spot light. Mr. Brown recorded species, life stage, and numbers of all amphibian and reptiles observed during the survey on data sheets (**Attachment D**). Additionally, Mr. Brown inspected submerged vegetation along the margins of the features for the presence of CRLF egg masses during the two daytime surveys on 25 January and 22 February 2023. The eight surveys consisted of three daytime surveys conducted on 25 January, 22 February, and 5 July 2023 and five nighttime surveys conducted on 8 February, 6 March, 19 April, 7 June, and 5 July 2023.

5.2 CRLF Survey Results

No CRLF were observed during the surveys. Amphibians observed during the surveys included the common Sierran treefrog (*Pseudacris sierra*), western toad (*Anaxyrus boreas*), and the invasive American bullfrog. Both ponds contain abundant CRLF predators including black bass (*Micropterus* sp.), bluegill (*Lepomis macrochirus*), Sacramento sucker (*Catostomus occidentalis*), red swamp crayfish (*Procambarus clarkia*), great egret (*Ardea alba*), great blue heron (*Ardea herodias*), racoon (*Procyon lotor*), north American river otter (*Lontra canadensis*), and valley garter snake (*Thamnophis sirtalis fitchi*).

The northwestern pond turtle (*Actinemys marmorata*), a species that has been proposed for being listed by the federal endangered species act, was observed in the lower pond during the surveys.

The results of these surveys are valid for two years. If construction has not commenced by July 2025 it is recommended that the surveys be conducted again prior to the start of construction.

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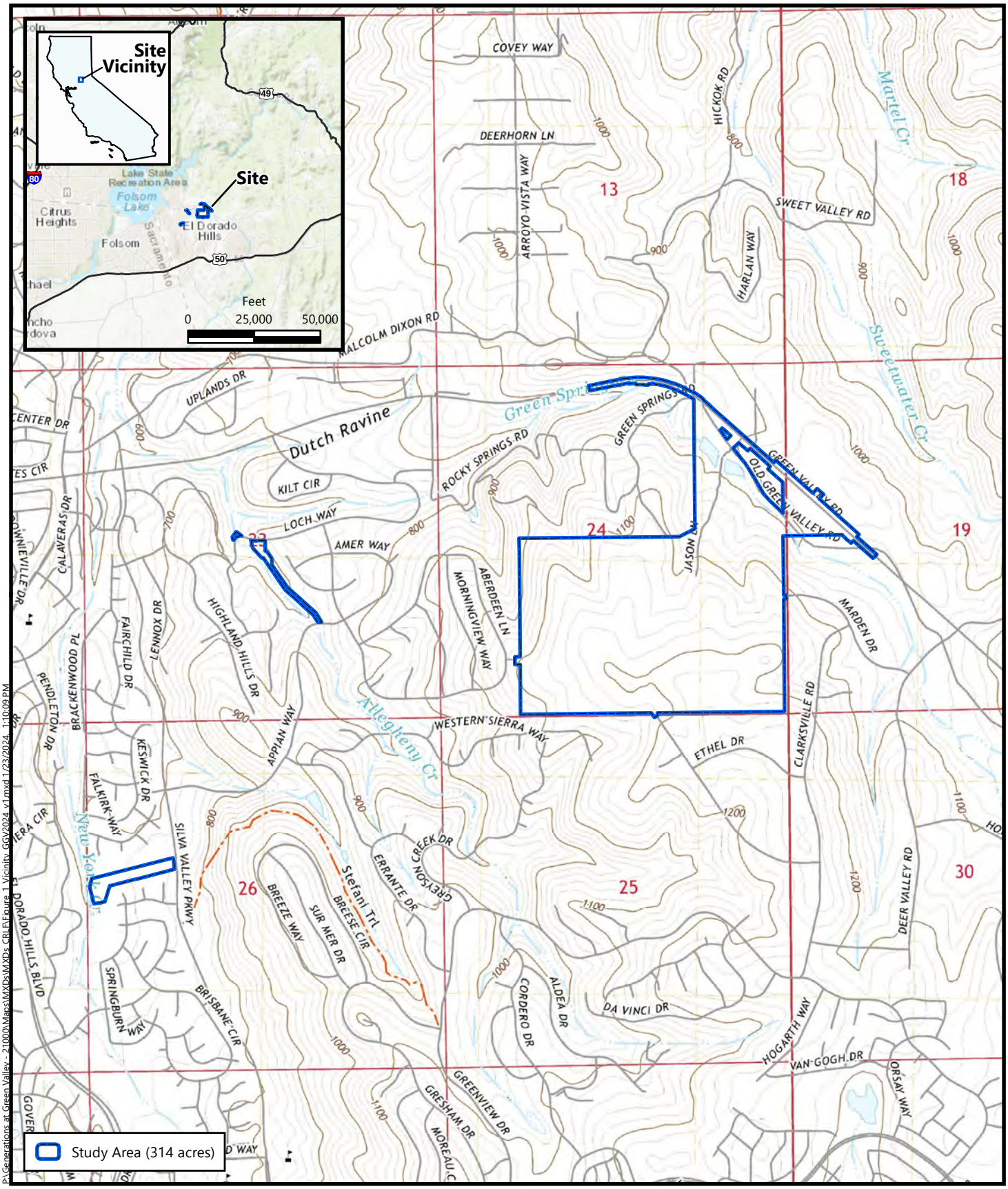
Figures

Figure 1. Site and Vicinity

Figure 2. California Red-legged Frog Habitat within the Study Area

Figure 3. California Natural Diversity Database Occurrences of California Red-legged Frog and California red-legged Frog Critical Habitat

Figure 4. California Red-Legged Frog Habitat within 1-Mile of the Study Area



P:\Generations at Green Valley - 21000\Maps\MXDs\MXDs CRL\Figure 1 Vicinity GGV2024_v1.mxd 1/23/2024 1:10:09 PM

Source: United States Geologic Survey, 2021.
"Clarksville, California" 7.5-Minute Topographic Quadrangle
Sections 23-26, Township 10 North, Range 8 East, and
Section 19, Township 10 North, Range 9 East, MDB&M
Latitude 38.703809, Longitude -121.052900

Figure 1
Vicinity Map

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

Green Valley Road

Loch Way

Loch Way

Allegheny Creek

Inset B

Feet
0 250 500

Darwin Way

Silva Valley Parkway

Inset A

Feet
0 250 500

P-2

P-1

S-4

Verde Valle Lane

Study Area (314 acres)

CRLF Aquatic Habitat

Aquatic Resources (7.562 acres)

Wetlands (2.585 acres)

Seasonal Wetland (0.025 acre)

Seasonal Wetland Swale (2.166 acres)

Seep (0.394 acre)

Other Waters (4.977 acres)

Ephemeral Drainage (0.248 acre)

Intermittent Drainage (0.899 acre)

Pond (3.803 acres)

Roadside Ditch (0.027 acre)

Feet
0 300 600

Main Extent

Inset B

Inset A

Feet
0 2,500 5,000

P:\Generations at Green Valley - 21000\Maps\MXDs\MXDs CRLF\Figure 2 CRLF Habitat Onsite GGV2024_v1.mxd 1/25/2024 2:08:40 PM

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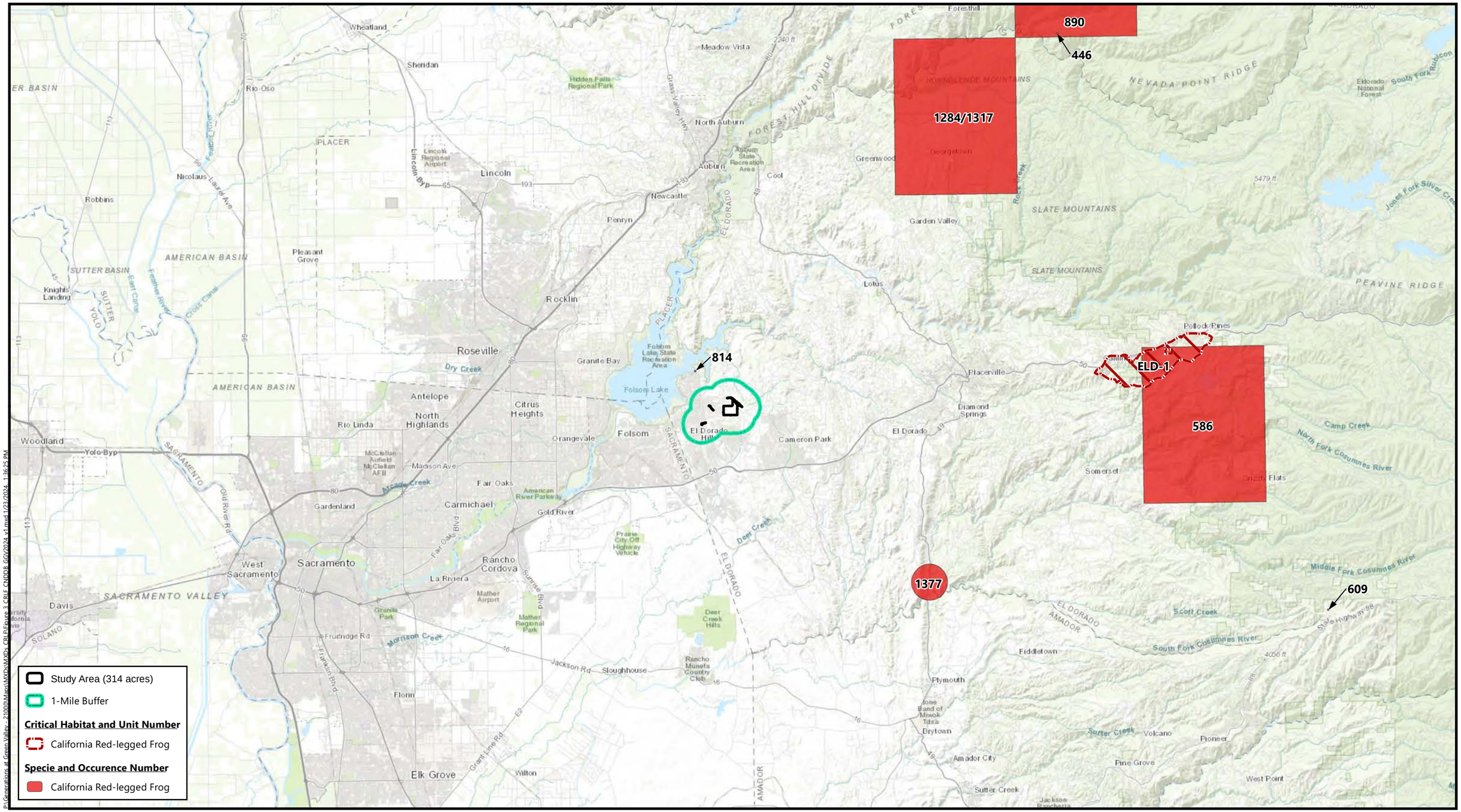
Figure 2
California Red-legged Frog Habitat within the Study Area

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

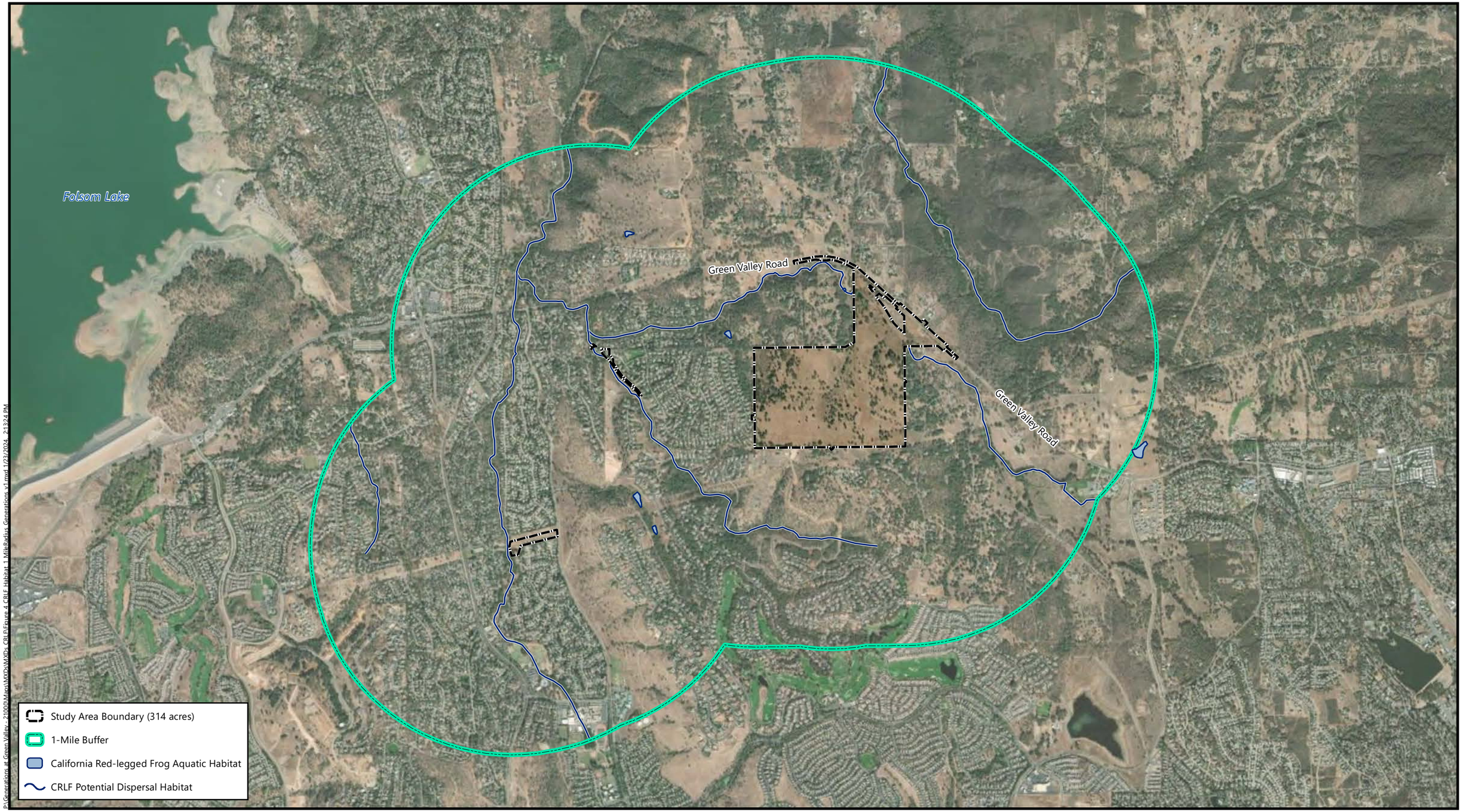
Aerial Source: Maxar, 1 May 2022.



Source: *California Department of Fish and Wildlife*, January 2024
Basemap Source: *National Geographic* and *ESRI*

Figure 3
California Natural Diversity Database Occurrences of California Red-legged Frog and California Red-legged Frog Critical Habitat
Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING



P:\Generations at Green Valley - 21000\Maps\MXDs\MXDs CRLF\Figure 4 CRLF Habitat 1 Mile Buffer\Generations at Green Valley_Figure 4 CRLF Habitat 1 Mile Buffer.mxd 1/29/2024 2:13:24 PM

Aerial Source: Maxar, 1 May 2022

Figure 4
California Red-legged Frog Habitat within 1-Mile of the Study Area

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

Attachments

Attachment A: Qualifications of Surveyor

Attachment B: Representative Site Photographs

Attachment C: Habitat Assessment Data Form

Attachment D: Survey Data Sheets

Attachment A

Qualifications of Surveyor

Surveyor Qualifications

Dustin Brown

Dustin Brown has more than 14 years of professional experience working as a consultant to both public agencies and the private sector, and has served as biologist for permitting and environmental assessment projects. He has conducted wildlife studies for a variety of terrestrial and aquatic species, including numerous studies involving federally and/or State-listed threatened and endangered wildlife species. Mr. Brown has conducted numerous biological resource investigations, habitat assessments, and jurisdictional wetland delineations for proposed projects. He routinely assesses existing biological resource databases and on-site survey data to evaluate potential impacts to special-status species including federal and/or state listed species, U.S. Forest Service Sensitive species, CNPS listed species, migratory bird species, and regionally sensitive species protected under local ordinances. These assessments often include the development of detailed study plans, developing and implementing literature and field studies, data acquisition, data analysis, impact assessments, mitigation planning, and other environmental documentation.

Mr. Brown has conducted studies and developed permits to meet the regulatory requirements of the federal Clean Water Act (Sections 404 and 401), the federal Endangered Species Act (Section 7 and Section 10), the California State Endangered Species Act (2050-2068, 2081), and the California Fish and Game Code Section 1602 governing activities that may affect fish and wildlife habitats associated with streams and lakes. He has developed several Biological Assessments per the USFWS and NOAA/NMFS guidelines and has worked on a variety of CEQA and NEPA documents including numerous NegDEC's, EIR's, EIS's, and EA's.

California Tiger Salamander

Mr. Brown was authorized under U.S. Fish and Wildlife Service 10(a)(1)(A) Permits TE-012973 and TE-48210A-1 to independently conduct CTS surveys and has personally conducted approximately 190 hours of CTS sampling and personally handled thousands of CTS larvae and over 89 juvenile and adult CTS

Mr. Brown has conducted protocol-level CTS habitat assessments on over ten properties in Calaveras, San Joaquin, Sacramento, Yolo, Stanislaus, Sonoma, San Benito, and Contra Costa Counties.

California Red-legged Frog

Mr. Brown was authorized under U.S. Fish and Wildlife Service 10(a)(1)(A) Permits TE-012973 and TE-48210A-1 to independently conduct CRLF surveys and has personally conducted approximately 60 hours of CRLF sampling and personally handled and observed approximately 62 CRLF larvae, 345 metamorph, 105 juveniles, and 45 adult CRLF.

Mr. Brown has conducted protocol-level habitat assessments for CRLF on over 10 properties in Placer, El Dorado, Calaveras, Sacramento, Sonoma, Marin, Monterey, San Ramon, Alameda, and Contra Costa Counties.

Attachment B

Representative Site Photographs

Facing northwest at Pond 1

Facing northwest at Pond 2

Facing southwest at Pond 2

Facing southeast at intermittent drainage (ID-2) that flows into Pond 1 - Potential CRLF Dispersal Habitat

Facing west at intermittent drainage (ID-3) that flows between Pond 1 and Pond 2 – Potential CRLF Dispersal Habitat

Facing east at the upland within the central portion of the Study Area on 5 November 2021

Facing south at Seep S-4 – Potential CRLF Aquatic Habitat

Facing north at Seep S-4 – Potential CRLF Aquatic Habitat

Facing East at Seep S-2 (western portion of the Study Area) on 19 February 2021 – Not suitable CRLF Aquatic Habitat

Attachment C

Habitat Assessment Data Form

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 11/5/2021
(mm/dd/yyyy)

Site Assessment Biologists: Brown (Last name) Dustin (first name) _____ (Last name) _____ (first name)

_____ (Last name) _____ (first name) _____ (Last name) _____ (first name)

Site Location: El Dorado, Green Valley Road 1.25 mi. NW of Pleasant Grove middle school
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Generations at Green Valley
Brief description of proposed action: Residential Development

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND: Pond 1 Pond 2

Size: 500'x200' 450'x160' Maximum depth: Pond 1: 8' Pond 2: 10'

Vegetation: emergent, overhanging, dominant species: See notes below.

Substrate: soil and bedrock (80%/20% respectively)

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Pond 2 (downstream pond) is perennial and has mosquito fish. Bulrush along 60% of shoreline, Himalayan blackberry along 20% of shoreline. 10% of shoreline is lined with grasses. Surrounding land use includes strawberry farming and rural residential to north and cattle-grazed oak woodland and willow to the south. Depth is >10'.

Pond 1 (upstream pond) - This is a seasonal pond that has a max depth of approx. 8 feet at base flow. Observed evidence of filling to 11' in depth during last heave rains. 30% emergent vegetation (scirpus), blackberry along 20% of shore along dam and SE bank. The rest of the bank is vegetated by grasses.

Appendix D.

California Red-legged Frog Habitat Site Assessment Data Sheet

This pond is fed by an intermittent drainage that is currently flowing ≈0.5 cfs. No fish or turtles observed in pond. No wading birds observed at this pond (likely no fish present). Water is clear. Surrounding land use is grasslands + oak woodlands that are cattle-grazed.

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Canada goose, mallard, western meadowlark, Anna's hummingbird, California quail, northern mockingbird, rattlesnake, Ca. towhee, red-winged blackbird, White-crowned sparrow, common gallinule, Wood duck, California scrub jay, Sierran chorus frog (calling in pond), great blue heron (Pond 2).

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species location

Attachment C

Survey Data Sheets

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 1/25/23 (mm/dd/yyyy) **Survey Biologist:** Brown (Last name) Dustin (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: El Dorado, Generations at Green Valley
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Generations at Green Valley
Brief description of proposed action: Large - lot residential development

Egg mass survey

Type of Survey (circle one): (DAY) NIGHT (BREEDING) NON-BREEDING

Survey number (circle one): (1) 2 3 4 5 6 7 8

Begin Time: 1220 pm **End Time:** 1455

Cloud cover: 0 **Precipitation:** 0

Air Temperature: 58-63°F **Water Temperature:** 48

Wind Speed: 7-10 mph **Visibility Conditions:** unlimited

Moon phase: Waxing Crescent **Humidity:** moderate

Description of weather conditions: clear, light wind, mild temp.

Brand name and model of light used to conduct surveys: N/A

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Pentax DCF SP 8x43

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

	Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
upper pond	Pseudacris regilla	☒ ☐	Ø	egg masses	–	100%
	"		H	adult	–	100%
Lower Pond	No amphibians					
Spring Box	No amphibians					

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: gambusia, bluegill, raccoons, great blue heron, great egret, and double-crested cormorant observed in lower pond.

Other notes, observations, comments, *etc.*

- ~ 0.25 cfs flowing out of spring box
- ~ 2-4 cfs flowing into & out of ponds
- Drift deposits show high flows raised level of upper pond 4' during storms.
- 85% of upper pond shoreline accessable, ~ 15% covered with American blackberry. 70% of lower pond is accessable.
- Gambusia affinis (lower pond)
- Both dams were overtopped (overwhelmed spillways) during January 2023 storms.
- Old irrigation intake pipes in lower pond - irrigate property to north of lower pond
- Upper pond - 8.0 feet deep
- lower pond - full and spilling ~ 5cfs.

Double-crested cormorant in lower pond
Canada goose
Lewis' woodpecker
Acorn woodpecker
Mallard
Black phoebe
Red-winged blackbird
Great blue heron in lower pond
~27 cliff swallow nests under bridge
raccoon prints - lower pond
White-crowned sparrow
Ca. scrub jay
Ca. towhee
Great egret - captured bluegill in lower pond

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 2/8/2023 (mm/dd/yyyy) **Survey Biologist:** Brown (Last name) Dustin (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: El Dorado, South of Green Valley Road and Malcom Dixon Road
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Generations at Green Valley
Brief description of proposed action: Large Lot Residential

Type of Survey (circle one): **DAY** **(NIGHT)** **(BREEDING)** **NON-BREEDING**

Survey number (circle one): **1** **(2)** **3** **4** **5** **6** **7** **8**

Begin Time: 6:10pm **End Time:** 7:40 pm

Cloud cover: 0% **Precipitation:** none

Air Temperature: 53°F **Water Temperature:** 57°F

Wind Speed: 0-2 mph **Visibility Conditions:** unlimited

Moon phase: waning gibbous **Humidity:** 66%

Description of weather conditions: Clear, calm, humid

Brand name and model of light used to conduct surveys: Nite Light headlamp, Streamlight Strion HPL Spot light

Were binoculars used for the surveys (circle one)? **(YES)** **NO**
Brand, model, and power of binoculars: Pentax DCF SP 8x43

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
upper pond Sierran Chorus frog	25	O	Egg masses	-	100%
"	20+	O & H	adult	-	"
"	"	O & H	"	-	"
"	2	H	"	-	"

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: raccoons around upper and lower ponds. Gambusia affinis in lower pond.

Other notes, observations, comments, *etc.*
Ponds are full. Water flowing into and out of ponds at approximately 1 cfs.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 2/22/2023 (mm/dd/yyyy) **Survey Biologist:** Brown (Last name) Dustin (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: El Dorado County, South of Green Valley Road and Malcom Dixon Road
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Generations at Green Valley
Brief description of proposed action: Large-lot residential

Egg Mass Survey

Type of Survey (circle one): (DAY) NIGHT (BREEDING) NON-BREEDING

Survey number (circle one): 1 2 (3) 4 5 6 7 8

Begin Time: 12:15 pm **End Time:** 2:30 pm

Cloud cover: Overcast **Precipitation:** none

Air Temperature: 48-50°F **Water Temperature:** 45°F

Wind Speed: 3-5mph **Visibility Conditions:** unlimited

Moon phase: Waxing Crescent **Humidity:** moderate

Description of weather conditions: cool, overcast, there have been several weeks of dry weather, cold front moving in.

Brand name and model of light used to conduct surveys: –

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Pentax DCF SP 8X43

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

	Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
upper pond	Sierran Chorus frog	36	O	egg masses	–	100%
	"	3	H	adult	–	100%
Lower Pond	"	1	H	adult	–	100%
Spring Box	"	3-A 2-em	O	Adult + egg masses	–	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: None in spring box
Upper Pond - None observed.
Lower Pond - gambusia affinis, Lepomis sp., Great egret, great blue heron, and raccoons.

Other notes, observations, comments, *etc.*
Upper Pond 8' deep. Lower pond is full. Flow in creek is ≈ 1-2 cfs.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 3/6/2023 (mm/dd/yyyy)

Survey Biologist: Brown (Last name) Dustin (first name)

Survey Biologist: – (Last name) – (first name)

Site Location: _____
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Generations at Green Valley
Brief description of proposed action: Large lot residential subdivision.

Type of Survey (circle one): **DAY** (**NIGHT**) (**BREEDING**) **NON-BREEDING**

Survey number (circle one): **1** **2** **3** (**4**) **5** **6** **7** **8**

Begin Time: 8:15 pm **End Time:** 10:35 pm

Cloud cover: 60% **Precipitation:** none

Air Temperature: 48 - 47°F **Water Temperature:** 49°F

Wind Speed: 7 mph **Visibility Conditions:** unlimited

Moon phase: full **Humidity:** 70%

Description of weather conditions: partly cloudy, light breeze, full moon

Brand name and model of light nsed to conduct surveys: Nite Light headlamp, Streamlight Strion HPL

Were binoculars used for the surveys (circle one)? (**YES**) **NO**
Brand, model, and power of binoculars: Pentax DCF SP 8x43

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

	Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
upper pond	Sierran Chorus frog	20	O	egg masses	–	100
		1,000s	O	larvae	–	100
	"	6	O	Adult	–	100
Lower Pond	"	3	O	Adult	–	100
spring box	"	1	O	egg mass	–	100
		2	H	Adult	–	100
		30	L	larvae	–	100

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: _____

No predators in spring box
Upper Pond - Raccoon
Lower Pond - Raccoon, Gambusia affinis, Lepomis sp., Great egret, great blue heron,

Other notes, observations, comments, *etc.*

Upper pond full - 8' deep
Lower pond full - spilling 1-2 cfs

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 4/19/2023 (mm/dd/yyyy) **Survey Biologist:** Brown (Last name) Dustin (first name)

Survey Biologist: – (Last name) – (first name)

Site Location: El Dorado, Green Valley Road, Generations
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Generations at Green Valley
Brief description of proposed action: Low-density residential development

Type of Survey (circle one): **DAY** (**NIGHT**) (**BREEDING**) **NON-BREEDING**

Survey number (circle one): **1** **2** **3** **4** (**5**) **6** **7** **8**

Begin Time: 8:50 pm **End Time:** 11:20 pm

Cloud cover: 0% **Precipitation:** none

Air Temperature: 54°F **Water Temperature:** 53°F

Wind Speed: 3-5 mph **Visibility Conditions:** unlimited

Moon phase: Waning Crescent **Humidity:** 70%

Description of weather conditions: clear, light breeze

Brand name and model of light used to conduct surveys: Streamlight Strion HPL Night Light head lamp

Were binoculars used for the surveys (circle one)? (**YES**) **NO**
Brand, model, and power of binoculars: Pentax DCF SP 8x43

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Spring Sierra Chorus frog	55	O	Larvae	–	100%
Ponds Bullfrog	35 - J 12 - A	O + H	Juvnile + adult		100
Chorus frog	100's - L 12 - A	O	Larvae, adult	–	100%
Weston Toad	1	O	Adult	–	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: None in spring box. Ponds have abundant fish (Bass, Lepomis sp., suckers), crayfish, bullfrogs, egrets, herons, racoons, river otters, and garter snakes.

Other notes, observations, comments, *etc.* Ponds are full

GHOW
BAOW
WESO
CATO
MALL
COGA

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 6/7/2023 (mm/dd/yyyy)

Survey Biologist: Brown (Last name) Dustin (first name)

Survey Biologist: _____ (Last name) _____ (first name)

Site Location: El Dorado County, Green Valley Road
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Generations at Green Valley
Brief description of proposed action: Low-density residential

Type of Survey (circle one): **DAY** (NIGHT) (BREEDING) **NON-BREEDING**

Survey number (circle one): **1** **2** **3** **4** **5** (6) **7** **8**

Begin Time: 9:43 pm **End Time:** 11:57 pm

Cloud cover: 100% overcast **Precipitation:** none

Air Temperature: 65°F **Water Temperature:** 66°F

Wind Speed: 8-10 mph **Visibility Conditions:** unlimited

Moon phase: Wanes Gibbous **Humidity:** 65%

Description of weather conditions: Overcast, light wind

Brand name and model of light used to conduct surveys: Streamlight Strion HPL Nite Light headlamp

Were binoculars used for the surveys (circle one)? (YES) **NO**
Brand, model, and power of binoculars: Pentax DCF SP 8x43

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

	Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Spring	Sierran Chorus Frog	~80	O	Larvae	–	100%
Upper Pond	Sierran Chorus Frog	6	O	Adult	–	100%
		~250	O	larvae	–	100%
	bullfrog	13-J	O/H	Juvenile	=	100%
		6-A	O/H	Adult		100%
Lower Pond	Sierran Chorus frog	2-J	O	Juvenile	=	100%
		3-A		Adult		
	bullfrog	36-J	O	Juvenile	=	100%
		19-A		Adult		
	American toad	2	O	Adult	–	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: None in spring box.

In Ponds: Abundant fish (unidentified suckers?, bass, Lepomis sp., catfish), crayfish, bullfrogs, egrets, herons, raccoons, river otter, garter snake.

Other notes, observations, comments, *etc.*
Upper pond is 8.8' deep. Abundant small fish.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) (date) (biologist)

Date of Survey: 7/5/2023 (mm/dd/yyyy)

Survey Biologist: Brown (Last name) Dustin (first name)

Survey Biologist: — (Last name) — (first name)

Site Location: El Dorado County, Cameron Park, Generations at Green Valley
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Generations at Green Valley
Brief description of proposed action: Low-density residential development

Type of Survey (circle one): (DAY) NIGHT BREEDING (NON-BREEDING)

Survey number (circle one): 1 2 3 4 5 6 (7) 8

Begin Time: 1200 pm **End Time:** 1510 pm

Cloud cover: 0% **Precipitation:** none

Spring - 64°F

Air Temperature: 79 - 88°F **Water Temperature:** Pond - 77°F

Wind Speed: 5-8 mph **Visibility Conditions:** Unlimited

Moon phase: Waning Gibbous **Humidity:** 50%

Description of weather conditions: clear, light wind, mild to warm

Brand name and model of light used to conduct surveys: —

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: Pentax DCF SP 8x43

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

	Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification	
in spring box	Pseudacris sierra	≈ 60	O	Tadpoles - mature with rear legs		100%	
	Pseudacris sierra	≈ 80	O	Juvenile - young of year		100%	in marshy vegetation D/S of spring
upper pond	American bullfrog	1 - L 10 - J 3 - A	O	Larvae, juvenile, and adult		100%	
	Pseudacris sierra	≈100	O	Juvenile young of the year		100%	
Lower Pond	American bullfrog	45 - J 8 - A	O	Juvenile and Adult		100%	in marshy veg. along pond margins
	Pseudacris sierra	≈ 40	O	Juvenile		100%	"

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: None in spring box. In upper and lower ponds: Abundant fish (lower has large fish bass?), crayfish, bullfrogs, egrets, herons, racoons, river otter, and garter snakes.

Other notes, observations, comments, *etc.*- Upper Pond is 7.8' deep. Has abundant 1-2" long fish (suckers?).
- lower pond is ≈ 1' from overflowing

EUST | AMRO
MALL | SPTO
Canada goose
CAQU | Wild turkey
TUVU | Great-tailed grackle
RSHA
RTHA
KILL
NOMO
RWBL
CLSW
LEGO
HOFI

Western pond turtles in lower pond : two basking on stump

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 7/5/2023 (mm/dd/yyyy) **Survey Biologist:** Brown (Last name) Dustin (first name)

Survey Biologist: — (Last name) — (first name)

Site Location: El Dorado, Cameron Park, Generations at Green Valley
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Generations at Green Valley
Brief description of proposed action: Low-density Residential development

Type of Survey (circle one): **DAY** **(NIGHT)** **BREEDING** **(NON-BREEDING)**

Survey number (circle one): 1 2 3 4 5 6 7 **(8)**

Begin Time: 0950 pm **End Time:** 12:15 AM

Cloud cover: 0 **Precipitation:** 0

Air Temperature: 74°F **Water Temperature:** spring pond 64°F 76°F

Wind Speed: 8mph **Visibility Conditions:** unlimited

Moon phase: Waning gibbous **Humidity:** 65%

Description of weather conditions: clear, light breeze

Brand name and model of light used to conduct surveys: Nite Light Head Lamp Streamlight STrion HPL

Were binoculars used for the surveys (circle one)? **(YES)** **NO**
Brand, model, and power of binoculars: Pentax DCF SP 8×43

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

	Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Spring Box	Pseudacris sierra	≥ 50	O	Larvae	-	100%
		≥ 60	O	Juvenile	-	100%
Upper Pond	Bullfrog	10 - L 30 - J 10 - A	O+H	all stages	-	100%
	Sierran chorus frog	≥ 40	O	juvenile	-	100%
Lower Pond	bullfrog	50 - J 15 - A	O	juvenile & adult	-	100%
	sierran chorus frog	25	O	juvenile	-	100

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: None in spring box. In ponds: Bass, sunfish (Lepomis sp.), swamp crayfish, bullfrogs, egrets, heron, racoon, rive otter, and garter snake.

Other notes, observations, comments, *etc.*

- Spring is clear and flowing slowly. Larvae Sierran chorus frogs in the process of metamorphosing.
- Abundant fish in ponds.

Racoon, western screech owl, Belted Kingfisher, barn owl, Ca. towhee

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

MADRONE ECOLOGICAL CONSULTING

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(916) 822-3230

8 April 2024

Regulatory Project Manager
California South Branch, Regulatory Division
U.S. Army Corps of Engineers, Sacramento District
1325 J Street, Room 1350
Sacramento, California 95814

Subject: Request for Approved Jurisdictional Determination for the Generations at Green Valley Project in El Dorado County, California (SPK 2011-00758)

Dear Sir or Madam,

The Generations at Green Valley Project site was originally delineated by Gibson & Skordal, LLC (G&S) under the project name of Dixon Ranch (SPK 2011-00758). The U.S. Army Corps of Engineers (USACE) issued a Preliminary Jurisdictional Determination (PJD) for the G&S wetland delineation for Dixon Ranch on 26 August 2011. This PJD, including the associated map, is included as **Attachment A**. Since 2011, the proposed project has been revised and been renamed, the project applicant has changed, and the project boundaries have changed. These new project boundaries now include expected off-site infrastructure improvements. We prepared a package to summarize some of these changes, and requested a combined PJD and Approved Jurisdictional Determination (AJD) for the revised area in August 2022; this map was not verified. Since that submittal, the definition of Waters of the U.S. has changed, and offsite infrastructure improvement areas have been added to the Study Area. As a result, we have prepared this revised package, and are requesting an AJD of the entire Study Area, as shown on **Attachment B**. An AJD request form, including the revised applicant information is included as **Attachment C**. Preparation of this package involved both surveys of the new portions of the Study Area (which are discussed below), as well as surveys throughout the previously verified portions of the Study Area to document any changes that may have occurred in the intervening time. These surveys were conducted by Senior Biologist Daria Snider and Biologist Matt Shaffer on 26 April, 7 and 24 May, and 9 June 2021 and 5 January 2024.

Changes to Project Boundaries

The project site is located at Green Valley Road in El Dorado County (**Figure 1**). The majority of the main project site has remained the same; however, the following modifications have been made:

- small slivers of additional area were added along the southern and eastern boundaries to reflect the surveyed parcel boundaries,
- a few small parcels along Green Valley Road were removed from the Project,
- several areas along either side of Green Valley Road have been added in anticipation of required road improvements;
- small areas along the western, southern, and eastern boundaries were added to allow the Project's internal circulation to tie into surrounding roadways; and
- areas were added just west of Silva Valley Parkway and between Loch Way and Appian Way for wastewater connections.

The exhibit provided in **Attachment D** shows the original verified boundary in comparison to the current Project Boundary. Soils found within the study area are shown on **Figure 2**.

Changes to Land Use within the Project Area

Since 2011, the land use within the vast majority of the Project Area has remained unchanged. Surveys conducted by Ms. Snider throughout the site indicated that the previously mapped aquatic resources were very consistent with current conditions. Hydrology changes upstream of the Project site on Green Springs Creek have resulted in a shorter duration of inundation for the ponds, but the extent of inundation remains the same. The only changes observed by Ms. Snider were in the northeastern-most parcels, where an active berry farm and associated fruit stand have been abandoned, and a large amount of grading occurred in the general vicinity. The grading did not leave the ground entirely flat, and some hydrophytic vegetation has established in some of the lower areas. However, three parameter data were collected in representative depressions, and hydric soils and wetland hydrology indicators were not found. As a result, these areas appear to be mesic areas in winter, and no aquatic resources were added to the map in these locations. One small depressional seasonal wetland was added to the delineation along an abandoned dirt road, and a seasonal wetland swale just to the northwest (SW1) was reclassified to a depressional seasonal wetland. In addition, wetland types were adjusted to match nomenclature that Madrone typically uses for aquatic resources delineations. All of these modifications are reflected in the aquatic resources delineation map included in **Attachment B**.

Extent of USACE Jurisdiction

The extent of USACE jurisdiction has fluctuated substantially in the past several years; however, the current definition of Waters of the U.S. is defined in the "Revised Definition of 'Waters of the United States'; Conforming," (Conforming Rule) which was published in the Federal Register and became effective on September 8, 2023. No interpreting guidance has been issued for the Conforming Rule, so we have interpreted it based on our professional experience. As we interpret this rule, the intermittent drainages Green Spring Creek and Alleghany Creek are Relatively Permanent Waters under paragraph (a)(3) of the Conforming Rule, and the ponds along Green Spring Creek are impoundments of otherwise jurisdictional waters under paragraph (a)(2) of the Conforming Rule. The ephemeral drainages are not relatively permanent and therefore are not subject to USACE jurisdiction. However, they still provide a "continuous surface connection" between the seasonal wetland swales and seeps that are interspersed along their length and the jurisdictional (a)(2) and (a)(3) waters. As a result, the seeps and seasonal wetlands are jurisdictional under paragraph (a)(4)(ii) of the Conforming Rule. The depressional seasonal wetlands and SWS-11 lack a continuous surface connection and are not jurisdictional. Additionally, most of the roadside ditches, which were constructed in uplands during road construction, are exempt from jurisdiction under paragraph (b)(3) of the Conforming Rule. Four roadside ditch segments (RD-6, RD-7, RD-8, and RD-9) appear to be a re-routed stream channel; however, their flow is ephemeral. As the flow duration for these four roadside ditch segments is not "relatively permanent," they are not subject to USACE jurisdiction. All of these jurisdictional categories have been noted in the ORM spreadsheet that is being attached to this digital submittal.

Update to Project Applicant Information

The project applicant has changed since the PJD was issued in 2011. Please update your records as follows:

Mr. Aiden Barry
Green Valley Road Benefits, LLC
110 Blue Ravine Road, Suite 103
Folsom, California 95630
(916) 945-9719
ABarry@thetruelifecompanies.com

In summary, we are requesting an Approved Jurisdictional Determination for the map included as **Attachment B**. An ORM spreadsheet and GIS shapefiles are being transmitted to you digitally with this letter, and a JD Request Form is included as **Attachment C**. If you have any questions or require additional information, please contact me at (916) 822-3230, or at gfodge@madroneeco.com.

Sincerely,

Ginger E. Fodge
Principal

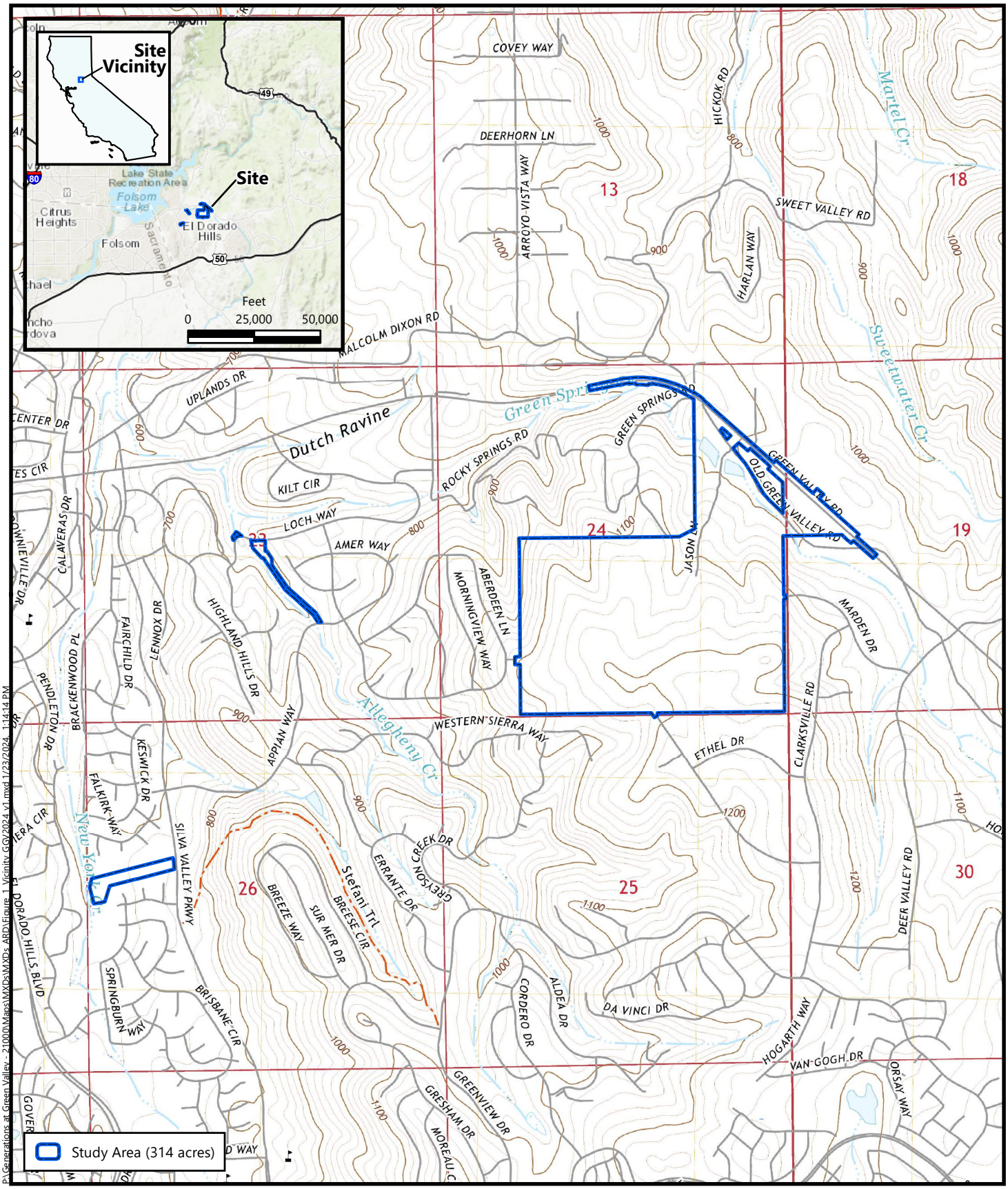
Attachments

cc: Mr. Aidan Barry
Green Valley Road Benefits, LLC
110 Blue Ravine Road, Suite 103
Folsom CA 95630

Figures

Figure 1: Site and Vicinity

Figure 2: Soils



Source: United States Geologic Survey, 2021.
"Clarksville, California" 7.5-Minute Topographic Quadrangle
Sections 23-26, Township 10 North, Range 8 East, and
Section 19, Township 10 North, Range 9 East, MDB&M
Latitude 38.703809, Longitude -121.052900

Figure 1
Site and Vicinity

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

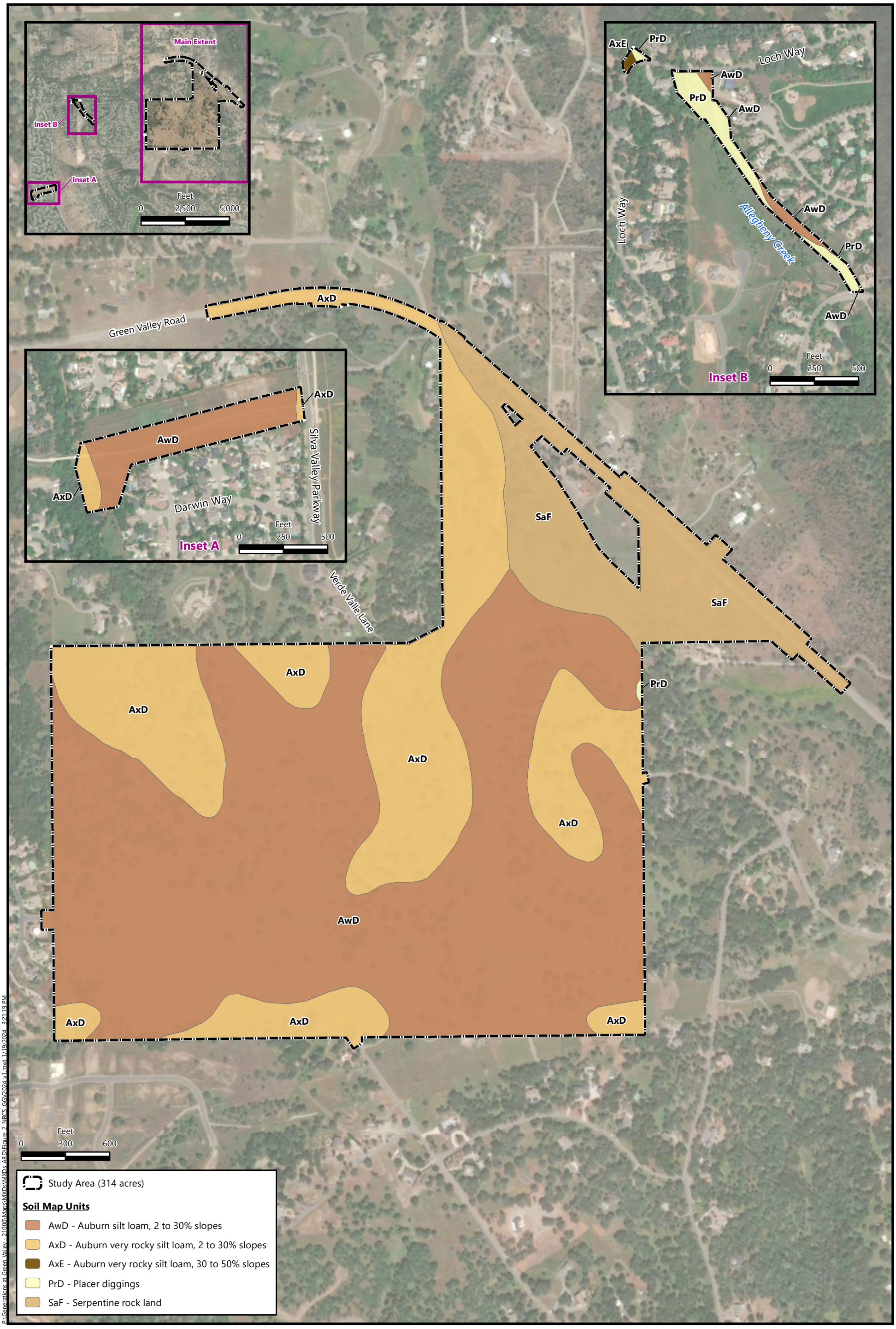


Figure 2
Natural Resources Conservation Service Soils

Generations at Green Valley
El Dorado County, California

MADRONE ECOLOGICAL CONSULTING

Soil Survey Source: *USDA, Soil Conservation Service. Soil Survey Geographic (SSURGO) database for El Dorado Area, California*
Aerial Source: Maxar, 1 May 2022.

Attachments

Attachment A: Preliminary Jurisdictional Determination for Dixon Ranch (SPK 2011-00758)

Attachment B: Aquatic Resources Delineation Map for Generations at Green Valley

Attachment C: JD Request Form

Attachment D: Comparison of Dixon Ranch PJD Study Area to Current Study Area

Attachment A

Preliminary Jurisdictional Determination
for Dixon Ranch (SPK 2011-00758)

Attachment B

Aquatic Resources Delineation Map
for Generations at Green Valley

Attachment C

JD Request Form

Attachment D

Comparison of Dixon Ranch PJD Study Area
to Current Study Area

Memo

To: Jaren Nuzman

From: Ginger Fodge, Principal

Date: 14 May 2024

Subject: Preliminary Biological Resource Evaluation of a Potential Generations at Green Valley Sewer Line Alignment along Silva Valley Parkway

At your request, Madrone Ecological Consulting, LLC (Madrone) has completed a preliminary biological resource evaluation of a potential sewer line alignment along Silva Valley Parkway in the unincorporated community of El Dorado Hills, El Dorado County, California (**Figure 1**). The potential alignment is being considered as an alternative route for a sewer line associated with the Generations at Green Valley Project. This memorandum refers to the potential sewer line alignment as the Silva Valley Parkway Study Area.

Survey Methodology

Madrone Senior Biologist Daria Snider surveyed the approximately 10.2-acre Silva Valley Parkway Study Area (**Figure 2**) on 25 April 2024. The purpose of the survey was to identify and map potential waters of the U.S. and/or State of California, conduct a special-status plant survey for any plants that have potential to occur within the Study Area, and to assess the potential for the Study Area to provide habitat for special-status species.

A list of special-status species with potential to occur within the Study Area was developed by conducting a query of the following databases:

- California Natural Diversity Database (CNDDB) (CNDDB 2022 and 2024) queries of the "*Clarksville, California*" USGS 7.5-minute quadrangle and the eight surrounding quadrangles (searched using the nine quadrangle names);
- USFWS Information for Planning and Conservation (IPaC) (USFWS 2022) query for the Study Area;
- California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (CNPS 2022 and 2024) query of the "*Clarksville, California*" USGS topo quadrangle, and the eight surrounding quadrangles;
- Verified records from Bumble Bee Watch (BBW 2024);
- Queries of the Western Monarch Milkweed Mapper (WMMM 2024) and Western Monarch Overwintering Site Viewer (Xerxes Society 2024) databases;
- Research grade observations from iNaturalist (iNaturalist 2024);
- Western Bat Working Group (WBWG) Species Matrix (WBWG 2022); and
- Cornell Laboratory of Ornithology's eBird database (Cornell Laboratory of Ornithology 2022 and 2024a).

In addition, any special-status species that are known to occur in the region, but that were not identified in any of the above database searches and/or were requested for consideration by El Dorado County, were also analyzed for their potential to occur within the overall Study Area.

Results

The study area consists of the developed Silva Valley Parkway, the unvegetated road shoulder on its east side, a roadside ditch adjacent to the eastern edge of the shoulder throughout much of the Study Area, and a nonnative annual brome grassland slope extending from the ditch eastward uphill to the adjacent bike trail. Two intermittent drainages flow from east to west through the Study Area. The Rolling Hills Middle School property boundary and the western edge of an existing bike trail form the eastern study area boundary. A few scattered trees occur within this grassland area including tallow tree (*Triadica sebifera*), Callery pear (*Pyrus calleryana*), and Valley oak (*Quercus lobata*).

Aquatic resources mapped within the Study Area are summarized in **Table 1**, and shown on **Figure 3**. These features would likely be considered waters of the U.S. and/or State.

Table 1. Aquatic Resources in the Silva Valley Parkway Study Area

Aquatic Resource Type	Amount in Study Area (acres)
Wetlands	
Seasonal Wetland Swale	0.05
Wetland Ditch	0.01
Total Wetlands	***0.06***
Other Waters	
Intermittent Drainage	<0.01
Roadside Ditch	0.13
Total Other Waters	***0.14***
GRAND TOTAL	**0.20**

Terrestrial Vegetation Communities and Land Cover were mapped within the Study Area, as summarized in **Table 2** and shown on **Figure 3**. Terrestrial Land Cover types include Urban (the paved section of Silva Valley Parkway and adjacent sidewalks and irrigated landscaping), Disturbed (the unvegetated shoulders of Silva Valley Parkway and the bike path), and Annual Brome Grassland.

Table 2. Terrestrial Vegetation Communities and Land Cover in the Silva Valley Parkway Study Area

Community Type	Amount in Study Area (acres)
Annual Brome Grassland	2.0
Disturbed	2.1
Urban	5.9
TOTAL	**10.0**

The habitats within the Study Area have the potential to support the following special-status species:

- Big-scale balsamroot (*Balsamorhiza macrolepis*, CRPR List 1B.2) – annual brome grassland
- Dwarf downingia (*Downingia pusilla*, CRPR List 2B.2) – wetland ditch and seasonal wetland swale
- Tuolumne button celery (*Eryngium pinnatisectum*, CRPR List 1B.2) – wetland ditch and seasonal wetland swale
- Pincushion navarretia (*Navarretia myersii ssp mysersii*, CRPR List 1B.1) – wetland ditch and seasonal wetland swale
- Sanford's arrowhead (*Sagittaria sanfordii*, CRPR List 1B.2) – intermittent drainage
- Crotch's bumblebee (*Bombus crotchii*, California candidate for listing) – annual brome grassland
- Monarch butterfly (*Danaus plexippus*, federal candidate for listing) – annual brome grassland
- Blainville's horned lizard (*Phrynosoma blainvillii*, California Species of Special Concern) – sandy road shoulders
- Tricolored blackbird (*Agelaius tricolor,* California Threatened and Species of Special Concern) (foraging) – annual brome grassland
- Grasshopper sparrow (*Ammodramus savannarum,* California Species of Special Concern) – annual brome grassland
- Golden eagle (*Aquila chrysaetos,* California Fully Protected Species) (foraging) – annual brome grassland
- Burrowing owl (*Athene cunicularia,* California Species of Special Concern) (wintering) – annual brome grassland
- White-tailed kite (*Elanus leucurus,* California Fully Protected Species) (nesting and foraging) – annual brome grassland
- Loggerhead shrike (*Lanius ludovicianus,* California Species of Special Concern) (nesting and foraging) – annual brome grassland
- Pallid bat (*Antrozous pallidus*, California Species of Special Concern, Western Bat Working Group High Threat Rank)- trees

The survey was conducted at the appropriate time of year to document big-scale balsamroot, dwarf downingia, and pincushion navarretia, if they were present. None of these species were detected during the survey, and they are presumed to be absent from the Study Area. The survey was conducted outside of the identifiable season for Tuolumne button celery and Sanford's arrowhead; therefore, a follow-up survey will be conducted during the summer months to search for these species and determine their presence or absence within the Study Area.

The CNDDB does not show any occurrences of special-status species within the Study Area. The CNDDB shows a 2012 record for northwestern pond turtle (*Actinemys marmorata*), which is proposed for listing as threatened under the federal Endangered Species Act and is a California species of special concern, approximately 0.8 mile to the south; this occurrence was recorded in a drainage along Silva Valley Parkway (Buck's Creek) south of Serrano Parkway and north of U.S. Highway 50. The drainage within which this occurrence was recorded does not extend into the Study Area.

Potential Impacts to Sensitive Biological Resources and Recommended Mitigation

No design has been developed to date for impacts within the Study Area; therefore, impacts to sensitive biological resources and Land Cover types are analyzed at a programmatic level, and we have provided recommended measures to minimize and mitigate any significant adverse impacts. These measures are consistent with those identified in the *Biological Resources Assessment for Generations at Green Valley, April 2024*, prepared for Green Valley Road Benefits, LLC, by Madrone Ecological Consulting, LLC.

Aquatic Resources

Up to 0.20 acre of aquatic resources could be impacted, including seasonal wetland swale, wetland ditches, roadside ditches, and intermittent drainages, as identified in **Table 3**.

Table 3. Maximum Aquatic Resource Impacts in the Silva Valley Parkway Study Area

Resource Type	Amount in Study Area (acres)	Potential Maximum Impact (acres)[1]
Wetlands		
Seasonal Wetland Swale	0.05	0.05
Wetland Ditch	0.01	0.01
Total Wetlands	***0.06***	***0.06***
Other Waters		
Intermittent Drainage	<0.01	<0.01
Roadside Ditch	0.13	0.13
Total Other Waters	***0.14***	***0.14***
GRAND TOTAL	**0.20**	**0.20**

Summation errors may occur due to rounding.

[1] Pending final design, it is anticipated that the Project can be designed to avoid permanent impacts to some or all of the aquatic resources. As such, the actual impact total is expected to be lower than that shown on the Grand Total line.

To mitigate for expected impacts to aquatic resources, we recommend the following measures:

1. The Project proponent shall apply for a Section 404 permit from the U.S. Army Corps of Engineers for activity that would waters of the U.S. Waters of the U.S. that will be impacted shall be replaced or rehabilitated on a "no-net-loss" basis. Compensatory mitigation in the form of habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods acceptable to the USACE.
2. The Project proponent shall apply for a Section 401 water quality certification from and/or submit a Report of Waste Discharge to the RWQCB and adhere to the certification conditions/WDRs.

Additionally, in the event the intermittent drainage would be temporarily or permanently impacted by the work, the Project proponent shall notify the CDFW consistent with the requirements of Fish and Game Code Section 1600 (Lake or Streambed Alteration) and abide by the conditions of any LSAA issued by CDFW.

Sensitive Terrestrial Vegetation Communities

The Study Area's only natural terrestrial vegetation community is Annual Brome Grassland. The other land cover types that could potentially be impacted by the Project included paved areas, landscaping, and the unvegetated road and bike path shoulders as summarized in **Table 4.** None of these communities are considered Sensitive by CDFW; therefore, no impacts to sensitive natural communities are expected.

Table 4. ***Maximum Terrestrial Vegetation Community Impacts in the Silva Valley Parkway Study Area***

Community Type	Amount in Off-Site Study Areas (acres)[1]	Potential Maximum Impacts (acres)[2]
Annual Brome Grassland	2.0	2.0
Disturbed	2.1	2.0
Urban	5.9	5.9
TOTAL	**10.0**	**10.0**

Summation errors may occur due to rounding.

[1] Total amounts in Study Area do not include aquatic resources listed in **Table 3**.

[2] The actual impact total is expected to be lower than that shown on the Grand Total line.

Although Annual Brome Grassland is not considered to be a sensitive vegetation community, individual Valley oak trees were identified within the Annual Brome Grassland. It is possible that impacts to these trees may occur, depending on final design of the sewer line alignment. To compensate for the loss of oak resources, we expect the County to require compliance with the following measures, which are derived from the County's Oak Resources Conservation Ordinance:

1. The Project proponent shall complete an Oak Resources Technical Report as required by Chapter 130.39 of the El Dorado County Code. The report shall summarize the oak woodlands within the Study Area, and document the number, size, species, and condition of all native oak trees outside of mapped oak woodlands with a single main trunk measuring greater than six inches in diameter at breast height (DBH) or with a multiple trunk having an aggregate trunk diameter measuring greater than ten inches DBH. The report shall identify all individual native oak trees greater than DBH 24 inches and less than DBH 36 inches occurring within the oak woodlands and all heritage native oak trees (DBH 36 inches and greater) present, including any occurring within the oak woodlands. The report shall identify mitigation at a 1:1 ratio (the ratio used for oak woodland impacts up to 50% per the El Dorado County Oak Resources Management Plan [El Dorado County 2017]) by one of the following methods:
    a) In-lieu fee payment based on the percent of on-site Oak Woodland impacted by the development as shown in Table 5 (Oak Woodland In-Lieu Fee) in the ORMP to be either used by the County to acquire off-site deed restrictions and/or conservation easements or to be given by the County to a land conservation organization to acquire off-site deed restrictions and/or conservation easements;
    b) Off-site deed restriction or conservation easement acquisition for purposes of off-site oak woodland conservation consistent with Chapter 4.0 (Priority Conservation Areas) of the ORMP;

c) Replacement planting within an area on-site for up to 50 percent of the total oak woodland mitigation requirement consistent with Section 2.4 (Replacement Planting Guidelines) of the ORMP. This area shall be subject to a Deed Restriction or Conservation Easement
d) Replacement planting within an area off-site for up to 50 percent of the total oak woodland mitigation requirement. Off-site replacement planting areas shall be consistent with Section 2.4 (Replacement Planting Guidelines) and Chapter 4.0 (Priority Conservation Areas) of the ORMP. This area shall be subject to a Deed Restriction or Conservation Easement; or
e) A combination of options a through d above.

2. The Project proponent shall submit an Oak Woodland Removal Permit application consistent with Chapter 130.39 of the El Dorado County Code and El Dorado County Oak Resources Management Plan (El Dorado County 2017).
3. The Project proponent shall implement all requirements of the Oak Woodland Removal Permit issued by El Dorado County and provide documentation showing fulfillment of the 1:1 mitigation requirement.
4. Because the Project would retain areas of oak woodland in the Study Area, a bond or other security instrument as described in El Dorado County Code Section 130.39.070 would be required. The bond or other security instrument shall be required as a condition of issuance of the discretionary permit and/or authorization to protect oak woodlands identified for preservation during the construction period. The form and amount of the security instrument shall be specified by the permit issuing body and approved by County Counsel. No grading or other on-site work shall be permitted until the security is posted.
5. If oak tree replacement planting is proposed for the Project, the Project proponent shall post a bond or other security instrument in an amount equal to the current value of required replacement tree(s) and/or acorns, plus the cost of maintenance and monitoring, as determined by a Qualified Professional (as described in El Dorado County Code Section 130.39.070). No grading or other on-site work shall be permitted until the security is posted.

Special-Status Plants

The early-season (April 2024) special-status plant survey conducted for the the Study Area was negative, but the late-season survey will need to be conducted during the summer months. If no special-status plant species are found during the 2024 surveys of off-site areas no relocation would be required. If special-status plants are found during any of the surveys and will be impacted, mitigation for those impacts will be determined during consultation with the County. If the plant found is a perennial, then mitigation could consist of digging up the plant and transplanting into a suitable avoided area on-site prior to construction. If the plant found is an annual, then mitigation could consist of collecting seed-bearing soil and spreading into a suitable avoided area on-site prior to construction.

Crotch Bumble Bee

The Study Area supports suitable nesting and foraging habitat for Crotch bumble bee. As such, we recommend the following measures:

Crotch bumble bee was designated as a candidate for listing under the CESA in 2019, but no decision on listing has been published. If, at the time of project implementation, the species is not a CESA candidate or CESA listed, and it does not fall into any of other special-status categories, then it would not qualify for protections under CEQA and no mitigation is necessary. Furthermore, because Crotch bumble bee is a candidate species, appropriate mitigation measures are still being developed and refined. Madrone has developed the following measure based on current literature and research, including CDFW's *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (CDFW 2023b). If at a later date a different mitigation measure is determined to be more appropriate, that measure can be submitted to the County at that time for review and approval.

- Initial ground-disturbing work (e.g., grading, vegetation removal, staging) shall take place between 1 September and 31 March (i.e., outside the colony active period), if feasible, to avoid impacts on Crotch bumble bee.
- If completing all initial ground-disturbing work between 1 September and 31 March is not feasible, then a senior biologist with 10 or more years of experience conducting biological resource surveys within California shall conduct a pre-construction survey for Crotch bumble bee in the area proposed for impact no more than 14 days prior to the commencement of construction activities. The survey shall occur during the period from one hour after sunrise to two hours before sunset, with temperatures between 65° F and 90° F, with low wind and no rain. If the timing of the start of construction makes the survey infeasible due to the temperature requirements, the surveying biologist shall select the most appropriate days based on the National Weather Service seven-day forecast and shall survey at a time of day that is closest to the temperature range stated above. The survey duration shall be commensurate with the extent of suitable floral resources (which represent foraging habitat) present within the area proposed for impact and the level of effort shall be based on the metric of a minimum of one person-hour of searching per three acres of suitable floral resources/foraging habitat. A meandering pedestrian survey shall be conducted throughout the area proposed for impact in order to identify patches of suitable floral resources. Suitable floral resources for Crotch bumble bee include species in the following families: Apocynaceae, Asteraceae, Boraginaceae, Fabaceae, and Lamiaceae.
- At a minimum, pre-construction survey methods shall include the following:
    - Search areas with floral resources for foraging bumble bees. Observed foraging activity may indicate a nest is nearby, and therefore, the survey duration shall be increased when foraging bumble bees are present.
    - If bumble bees are observed, attempt to photograph the individual and identify it to species.
    - If Crotch bumble bee is observed, watch any Crotch bumble bees present and observe their flight patterns. Attempt to track their movements between foraging areas and the nest.
    - Visually look for nest entrances. Observe burrows, any other underground cavities, logs, or other possible nesting habitat.
    - If floral resources or other vegetation preclude observance of the nest, small areas of vegetation may be removed via hand removal, line trimming, or mowing to a height of no less than 4 inches to assist with locating the nest.

  - Look for concentrated Crotch bumble bee activity.
  - Listen for the humming of a nest colony.
- The biologist conducting the survey shall record when the survey was conducted, a general description of any suitable foraging habitat/floral resources present, a description of observed bumble bee activity, a list of bumble bee species observed, a description of any vegetation removed to facilitate the survey, and their determination of if survey observations suggest a Crotch bumble bee nest(s) may be present or if construction activities could result in take of Crotch bumble bees. The report shall be submitted to the County prior to the commencement of construction activities.
- If no bumble bees are located during the pre-construction survey or the bumble bees located are definitively identified as common (i.e., not special-status) species, then no further mitigation or coordination with CDFW is required.
- If any sign(s) of a bumble bee nest is observed, and if it cannot be established the species present is not a Crotch bumble bee, then construction shall not commence until either 1) the bumble bees present are positively identification as common (i.e., not special status) by an experienced bumble bee taxonomist, or 2) the completion of coordination with CDFW to identify appropriate mitigation measures, which may include but not be limited to: waiting until the colony active season ends, establishment of nest buffers, or obtaining an Incidental Take Permit (ITP) from CDFW.
- It is recommended, but not required that the Project Applicant also survey the proposed impact areas the year before construction begins in order to avoid potential last-minute delays associated with identifying Crotch bumble bees on-site immediately prior to construction activities. To be most effective, this optional survey should follow the protocol outlined above.
- If Crotch bumble bees are located, and after coordination with CDFW take of Crotch bumble bees cannot be avoided, the Applicant shall obtain an ITP from CDFW prior to County approval of permits authorizing construction, and the Applicant shall implement all conditions identified in the ITP. Mitigation required by the ITP may include but will not be limited to, the Project Applicant translocating nesting substrate in accordance with the latest scientific research to another suitable location (i.e., a location that supports similar or better floral resources as the impact area), enhancing floral resources on areas of the Project site that will remain appropriate habitat, worker awareness training, and/or other measures specified by CDFW.

Monarch

This species could be adversely affected if construction activity results in the removal of milkweed plants being actively utilized by monarch (either supporting eggs or feeding caterpillars) at the time of construction.

To mitigate for potential impacts to monarch, we recommend the following measure:

If construction occurs during the time when milkweed plants may host monarch eggs or caterpillars (approximately mid-March through late September) and construction activity would require the removal of milkweed plants, the plants shall be surveyed by a qualified biologist no more than 14 days prior to plant removal for the presence of eggs or caterpillars. If eggs or caterpillars are detected, the plants shall be avoided until they are no longer being utilized by monarch

caterpillars, as confirmed by a qualified biologist. If no eggs or caterpillars are detected, no additional protection measures are necessary.

Coast (Blainville's) Horned Lizard

There is a low potential for Blainville's horned lizard to occur within the Study Area. However, if the species were present at the time of construction, activity could result in direct harm to individual coast horned lizards. In order to avoid direct mortality to this species, the following measure is recommended:

Within 14 days prior to the initiation of any construction activity, a qualified biologist shall conduct preconstruction surveys for coast (Blainville's) horned lizard in appropriate habitats. If Blainville's horned lizard is found during the survey, a qualified biologist shall relocate the individuals to suitable habitat outside of the Project area, subject to review and approval by CDFW and/or El Dorado County.

Nesting Birds

The general project area supports vegetation that provides nesting habitat for migratory bird species, including special-status species such as tricolored blackbird, grasshopper sparrow, golden eagle, white-tailed kite, yellow-breasted chat, loggerhead shrike, and California black rail. If birds are nesting in the Project impact area at the time of construction, activity could disturb nesting birds, resulting in the loss of eggs or young or nest abandonment. In order to prevent potential disturbance and/or direct effects to active nests, we recommend the following measure:

If ground disturbance or other construction activities are proposed during the bird nesting season (February 1 – August 31), a focused survey for nesting raptors and migratory bird nests shall be conducted by a qualified biologist within 14 days prior to the beginning of construction activities in order to identify active nests. This survey shall be conducted within the proposed construction area and all accessible areas within the following buffer areas:

- 0.5 mile for bald eagle and golden eagle
- 0.25 mile for tree-nesting raptors
- 500 feet for tricolored blackbird
- 500 feet for all other species

Take avoidance burrowing owl surveys of suitable habitat will be conducted consistent with the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Non-breeding season protocol will be used for surveys conducted between September 1 and January 31 and breeding season protocol will be used for surveys conducted between February 1 and August 31.

If nests are found, the following no-disturbance buffers shall be established:

- If active raptor nests are found, no construction activities shall take place within 0.25-mile for golden eagles or within 500 feet of other raptor nest(s) until the young have fledged.
- If active songbird nests are found, a 100-foot no disturbance buffer will be established. These no-disturbance buffers may be reduced based on consultation and approval by the County.

- If active tricolored blackbird nests are found, a 500-foot radius no-disturbance buffer shall be established and marked to ensure that construction activity does not encroach into the buffer area. The no-disturbance buffer may be removed, and construction may resume within the buffer area once the young have fledged.
- If active burrowing owl burrows are found, no construction activities shall take place within 250 feet of occupied burrows, and a no-disturbance buffer shall be marked on-site. The buffer may be removed once the young have fledged and/or are no longer dependent on the nest.

The perimeter of buffer/no-disturbance areas shall be indicated by bright orange temporary fencing. No construction activities or personnel shall enter the protected area, except with approval of the biologist. If trees containing nests or burrows must be removed as a result of Project implementation, removal shall be completed during the nonbreeding season (late September to March) if possible, or after a qualified biologist determines that the young have fledged (during the breeding season).

If no active nests are found during the focused survey(s), no further mitigation will be required.

Survey results shall be provided to the County within 15 days of completion of all surveys. Surveys shall be repeated if there is a break of construction of more than 14 days during the nesting season.

Roosting Bats

If the Project requires tree removal in oak woodland areas, construction could disturb tree-roosting bat species if they are present at the time of tree removal. In order to prevent potential disturbance and/or direct effects to occupied roosts, we recommend the following measure:

Pre-construction roosting bat surveys shall be conducted by a qualified biologist within 14 days prior to any tree removal. If no tree removal is proposed, no mitigation measures are necessary. If pre-construction surveys indicate that no roosts of special-status bats are present, or that roosts are inactive or potential habitat is unoccupied, no further mitigation is required. If roosting bats are found, exclusion shall be conducted as recommended by the qualified biologist. Methods may include acoustic monitoring, evening emergence surveys, and the utilization of two-step tree removal supervised by the qualified biologist. Two-step tree removal involves removal of all branches that do not provide roosting habitat on the first day, and the next day cutting down the remaining portion of the tree. Once the bats have been excluded, tree removal may occur.

Worker Environmental Awareness Training

Construction crews must be aware of regulations and conditions that apply to the Project and specific resources in the Study Area. We recommend that the Project proponent implement the following measure to inform construction personnel of the regulations and conditions that apply to the Project:

Prior to any dewatering, ground-disturbing, or vegetation-removal activities, a Worker Environmental Awareness Training (WEAT) shall be prepared and administered to the

construction crews. The WEAT will include the following: discussion of the state and federal Endangered Species Act, the Clean Water Act, the Project's permits and CEQA documentation, and associated mitigation measures; consequences and penalties for violation or noncompliance with these laws and regulations; identification of special-status wildlife, location of any avoided Waters of the U.S; hazardous substance spill prevention and containment measures; and the contact person in the event of the discovery of a special-status wildlife species. The WEAT will also discuss the different habitats used by the species' different life stages and the annual timing of these life stages. A handout summarizing the WEAT information shall be provided to workers to keep on-site for future reference. Upon completion of the WEAT training, workers will sign a form stating that they attended the training, understand the information presented and will comply with the regulations discussed. Workers will be shown designated "avoidance areas" during the WEAT training; worker access should be restricted to outside of those areas to minimize the potential for inadvertent environmental impacts. Fencing and signage around the boundary of avoidance areas may be helpful.

Figures

Figure 1. Site & Vicinity

Figure 2. Silva Valley Parkway Off-Site Study Area

Figure 3. Land Cover for the Silva Valley Parkway Off-Site Study Area

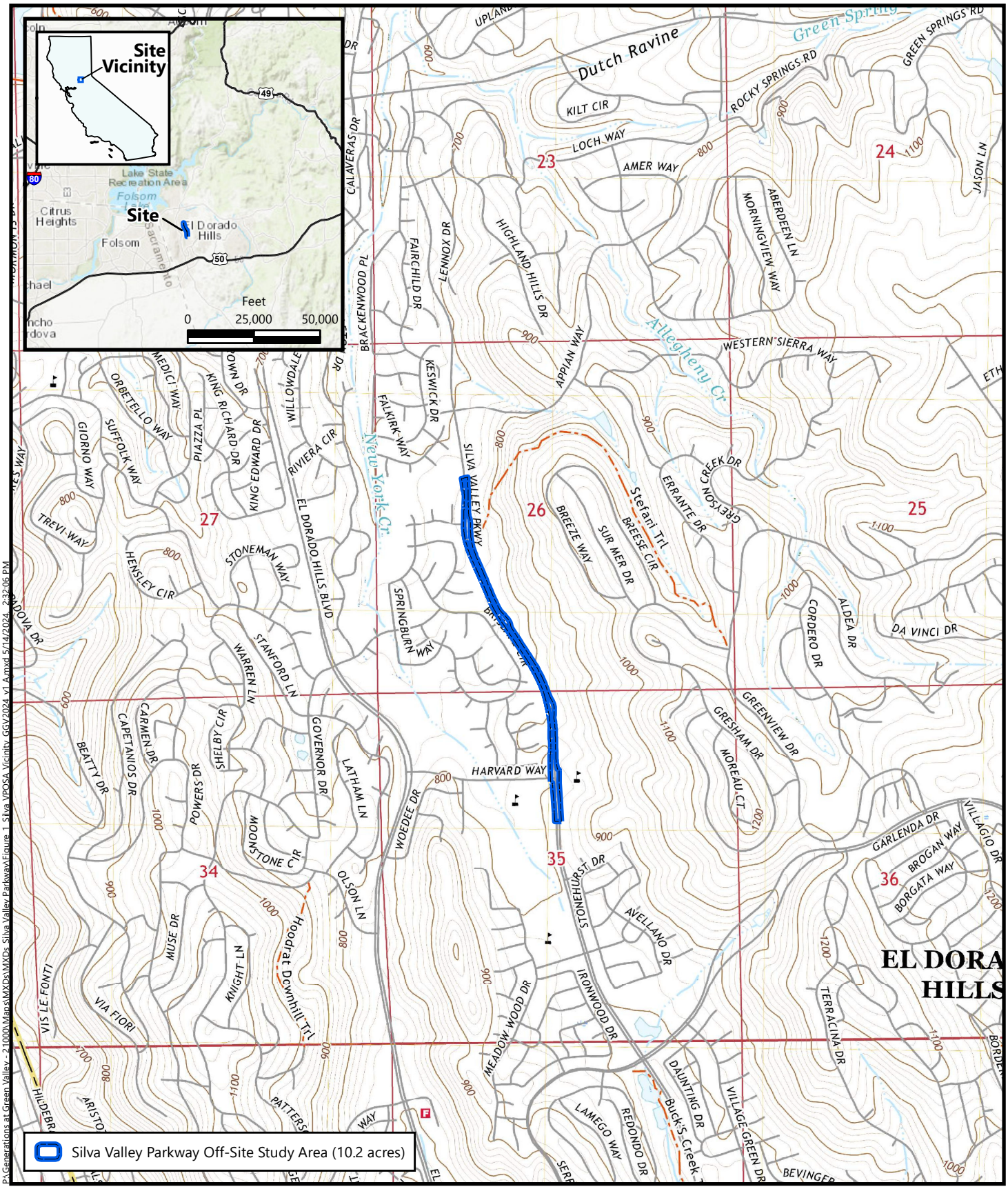


Figure 1
Silva Valley Parkway Off-Site Study Area Site and Vicinity

Generations at Green Valley
El Dorado County, California

Source: United States Geologic Survey, 2021.
"Clarksville, California" 7.5-Minute Topographic Quadrangle
Sections 26 and 35 Township 10 North, Range 8 East, MDB&M
Latitude 38.687009, Longitude -121.070294

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P:\Generations at Green Valley - 21000\Maps\MXDs\MXDs Silva Valley Parkway\Figure 2 Project Area Silva VPOSA GGV2024 v1 A.mxd 5/14/2024 2:31:50 PM

Figure 2
Silva Valley Parkway Off-Site Study Area and Generations at Green Valley Project

Generations at Green Valley
El Dorado County, California

Aerial Source: Maxar, 1 May 2022.

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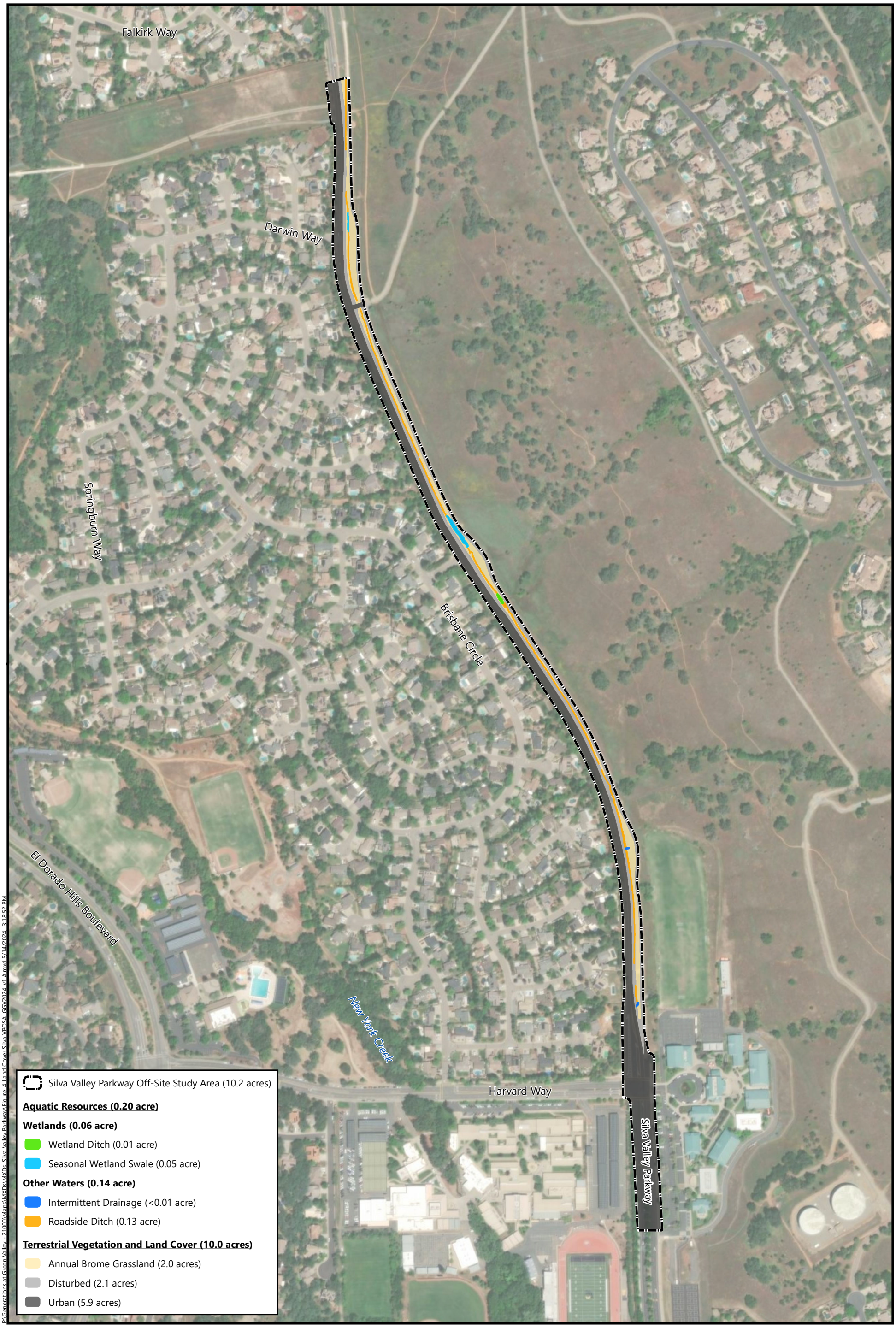

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Aerial Source: Maxar, 1 May 2022.

Figure 3
Land Cover for the Silva Valley Parkway Off-Site Study Area

Generations at Green Valley
El Dorado County, California

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