

**TOWN OF APPLE VALLEY**  
SAN BERNARDINO COUNTY, CALIFORNIA

**FINAL**  
**ENVIRONMENTAL IMPACT REPORT**  
(SCH# 2008091077)

**FOR THE**  
**TOWN OF APPLE VALLEY**  
**GENERAL PLAN UPDATE AND**  
**ANNEXATIONS 2008-001 AND**  
**2008-002**

Prepared For

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**June 26, 2009**

**FINAL EIR  
RESPONSE TO COMMENTS  
ON  
DRAFT  
ENVIRONMENTAL IMPACT REPORT  
FOR  
TOWN OF APPLE VALLEY GENERAL PLAN UPDATE AND ANNEXATIONS  
2008-001 AND 2008-002**

**June 26, 2009**

**STATE CLEARINGHOUSE NO. 2008091077**

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**AGENCY COMMENTS/RESPONSE TO COMMENTS**

The Response to Comments on the Draft EIR for the General Plan Update and Annexations 2008-001 and 2008-002 in the Town of Apple Valley has been prepared in accordance with Section 15088, 15089 and 15132 of the California Environmental Quality Act (CEQA) Guidelines. The following agencies and interested parties have commented on the Draft EIR. Please note that Section I contains verbatim comments from agency and other interested parties, and subsequent responses. Section II contains the full text of commenting agency correspondence.

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## **SECTION I**

### **RESPONSE TO COMMENTS**

The following comments were received on the Draft EIR for the Town of Apple Valley General Plan Update and Annexations 2008-001 and 2008-002, which was transmitted to responsible agencies and interested parties. These comments concern aspects of the Draft EIR, including clarification of information, adequacy of analysis, and similar issues. Responses are provided to all substantive comments made regarding the proposed General Plan Update and Annexations. Related comments may occasionally be combined to allow one response to address these related questions.

## **A. Governor's Office of Planning and Research**

**A.1. Comment:** This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

**A.1. Response:** Comment noted.

## **B. California Department of Fish and Game**

- B.1. Comment:** The Department is providing comments on the DEIR as the State agency which has statutory and common law responsibilities with regard to fish and wildlife resources and habitats. California’s fish and wildlife resources, including their habitats, are held in trust for the people of the State by the Department (fish and Game Code §711.7). The Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitats necessary for biologically sustainable populations of those species (Fish and Game Code § 1802). The Department’s Fish and Wildlife management functions are implemented through its administration and enforcement of Fish and Game Code (Fish and Game Code §702). The Department is a trustee agency for fish and wildlife under the California Environmental Quality Act (see CEQA Guidelines, 14 Cal. Code Regs. §15386(a). The Department is providing these comments in furtherance of these statutory responsibilities, as well as its common law role as trustee for the public’s fish and wildlife.
- B.1. Response:** Comment noted.
- B.2. Comment:** As stated in DEIR Section III-62: “It is assumed that individual land development actions will require site-specific evaluations identifying potential impacts to biological resources.” The Department stresses the importance of site-specific evaluation of potential projects.
- B.2. Response:** Comment noted. Mitigation #3, page III-65, requires the preparation of site-specific studies for all special status species. Further, the General Plan includes habitat mapping and Exhibit III-6, which indicates areas where biological resource studies must be performed. The General Plan and EIR require the implementation of the mitigation recommended by such studies, in concert with the site-specific recommendations to be made by the Department and the US Fish and Wildlife Service. These studies, and the mitigation measures they recommend, will assure that impacts to sensitive species will be reduced to less than significant levels. While the EIR is a program-level document, the impacts of the General Plan have been analyzed to the extent possible, without engaging in speculation, and mitigation is proposed that provides the framework for site-specific analysis.
- B.3. Comment:** The proposed project is within the range of the Mohave ground squirrel (MGS). Not all lands within the range are potential habitat for the MGS. The Department reviews the potential for MGS habitat on a site specific basis. Under Section III-55, Sensitive Mammal Species of the DEIR, it is stated “...the historic range of which [the Mohave ground squirrel] is thought to occur within the planning area. However, due to habitat fragmentation related to agriculture and urban development, this species appears to have been extirpated from the Victor Valley region.” The Department has not concurred with this determination. The

Department evaluates potential MGS habitat on a site-by-site basis and as such, individual habitat analyses with documentation stating why the lands are not considered MGS habitat should be submitted to the Department for our concurrence, and be available for public review. The Department will use the information to determine if it concurs with the analysis. CEQA requires the lead agency to support their finding that the project will not have a significant impact on the environment. Without this documentation, the finding is not supported. In addition, if the sites do contain occupied habitat, the developer is at risk of taking a Threatened species without an Incidental Take Permit, which is a violation of Fish and Game Code §2080.

**B.3. Response:**

Comment noted. The General Plan and EIR include policies and programs requiring continued coordination and cooperation with both the Department and the US Fish and Wildlife Service in the assessment and protection of state and federally designated species.

As noted on page III-48 of the EIR, the Mojave Ground Squirrel was last seen in this area in 1955, just southeast of the Planning Area. Furthermore, much of the habitat present in the Planning Area has been highly disturbed and fragmented.

However, Mitigation #3 page III-65, requires site-specific biological resource evaluations within habitat areas, including habitat areas for Mojave ground squirrel. Should Mojave ground squirrel be identified on a project site in the future, the requirements of the Department for the species would be implemented. Since the species is designated Threatened, state law prohibits any action without the issuance of an Incidental Take Permit by the Department. The Town will require such a permit of any project which would have a potential to impact the species, as described in the EIR, and established in the policies of the General Plan. Because exact mitigation requirements will be determined by the site-specific studies prepared by qualified professionals for each project, they cannot be specified at the program-level. The requirements of Mitigation #3 establish the mechanism for the identification of these exact mitigation methods. Consequently, substantial evidence supports the EIR's determination that impacts to the Mojave ground squirrel, if present, will be reduced to less than significant levels.

Finally, the Town is including in its Multiple Species Habitat Conservation Plan, also mandated in the General Plan, analysis of the Mojave ground squirrel.

### C. Solution Strategies

- C.1. Comment:** *III-59, ¶ 5, Line 8-9:* A disclaimer is needed regarding jurisdictional areas. Not all jurisdictional areas may be delineated.
- C.1. Response:** Comment noted. The US Army Corps of Engineers makes the ultimate determinations as to whether a waterway is jurisdictional under the Clean Water Act, and these determinations are made on a project-by-project basis.
- C.2. Comment:** *Exhibit III-3:* The notes regarding jurisdictional waters only apply to waters that fall within the purview of the federal Clean Water Act. Many of the drainages shown as non-jurisdictional waters in the Exhibit fall under the jurisdiction of California Department of Fish and Game (CDFG) and would require appropriate state permits (i.e., a Streambed Alteration Agreement) for activities affecting those stream courses. We suggest that CDFG’s authority over waterways is mentioned as well. This comment also applies to the supporting biology technical report.
- C.2. Response:** Comment noted. The Exhibit legend states, in part “[p]lanned surface disturbance in these identified streambeds and waters may also be subject to permitting considerations....by the California Department of Fish and Game...” The Exhibit, and the biological resource study from which it was developed, already include the information requested by the commentor.

## **D. California Public Utilities Commission**

**D.1. Comment:** The California Public Utilities Commission (Commission) has jurisdiction over the safety of highway-rail crossings (crossings) in California. The California Public Utilities Code requires Commission approval for the construction or alteration of crossings and grants the Commission exclusive power on the design, alteration, and closure of crossings.

**D.1. Response:** Comment noted.

**D.2. Comment:** The Commission's Rail Crossings Engineering Section (RCES) is in receipt of the *Notice of Completion & Environmental Document Transmittal-Draft EIR* from the State Clearinghouse for the city's General Plan update. As the state agency responsible for rail safety within California, we recommend that the City add language to the General Plan so that any future proposed development adjacent to or near BNSF railroad right-of-way be planned with the safety of the rail corridor in mind. New developments may increase traffic volumes not only on streets and at intersections, but also at at-grade highway-rail crossings. This includes considering pedestrian circulation patterns/destinations with respect to railroad right-of-way.

**D.2. Response:** Comment noted. As stated in both the General Plan and EIR, there are two rail lines within the Town limits, which carry limited rail traffic. One line is located in the northern portion of Town, and carries 2 to 4 trips per day. The other bisects the southeastern corner of Town, and carries one trip per day. Land use designations planned adjacent to these lines have considered the land use compatibility of rail crossings, and have resulted in land use designations which are either for very low intensity residential uses on lots of more than an acre, or industrial land uses. Since the northern rail line is privately owned, and the owner in the past has prohibited crossings across the line, it is anticipated that no crossings will occur along this line, and that access to these lands will occur north or south of Quarry Road. The BNSF line located in the southeastern corner of Town occurs across residentially designated lands, in an area whose roadway system is established, and no additional crossings are expected. Because of the low density of these lands, and the low densities proposed on adjacent County lands, traffic volumes in this area are anticipated to remain low (please see Section III-O, Traffic and Circulation, which includes level of service depictions throughout the community, including the areas surrounding the rail crossings). As individual projects are proposed adjacent to these lines, however, Town Planning staff will route applications to the Public Utilities Commission as needed to assure that their jurisdiction over alteration or addition of crossings is maintained and enforced. The Commission has the authority and obligation to maintain public safety at highway-rail crossings, and may choose in the future to require crossing improvements associated with specific projects.

**D.3. Comment:** Mitigation measures to consider include, but are not limited to, the planning for grade separations for major thoroughfares, improvements to existing at-grade highway-rail crossings due to increase in traffic volumes and continuous vandal resistant fencing or other appropriate barriers to limit the access of trespassers onto the railroad right-of way.

**D.3. Response:** Comment noted. Please see response D.2., above. Future traffic volumes in the areas surrounding the two rail lines do not indicate that significant safety impacts would result, and therefore no program-level mitigation is required pursuant to CEQA at this point in time. As individual projects are proposed adjacent to either rail line, site specific conditions of approval, and mitigation measures if required, will be developed to directly address the site's impacts, if any, to rail lines and rail crossings.

**D.4. Comment:** Language should be in place so that any traffic impact studies undertaken for proposed projects should also address traffic increase impacts over affected crossings and associated proposed mitigation measures.

**D.4. Response:** Comment noted. Please see responses D.2. and D.3., above. The Town will identify potential impacts associated with individual projects as they are proposed through its preparation of the Initial Study checklist, and include potential conflicts with rail lines in the scope of traffic analysis to be prepared for such projects when necessary.

**E. California Department of Toxic Substances Control**

- E.1. Comment:** DTSC provided comments on the project Notice of Preparation (NOP) on October 21, 2008; please address those comments in the DEIR for the proposed project.
- E.1. Response:** Comment noted. The comments provided by the Department in October of 2008 have been considered in the writing of the EIR, and have been addressed in Section III-G. of the document.
- E.2. Comment:** If necessary, DTSC can provide guidance for cleanup oversight through an Environmental Oversight Agreement. (EOA) for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see [www.dtsc.ca.gov/SiteCleanup/Brownfields](http://www.dtsc.ca.gov/SiteCleanup/Brownfields), or contact Ms. Maryam Tasnif Abbasi DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489.
- E.2. Response:** Comment noted. The Town acknowledges the availability of DTSC to serve in this role.

**F. Mojave Desert Air Quality Management District**

**F.1. Comment:** The district noted that state and federal ozone standard on page III-16 should be updated to “Non-attainment; classified Severe-17.” MDAQMD Designations and Classifications are available at [http://www.mdaqmd.ca.gov/rules\\_plans/documents/CEQAGuidelines.pdf](http://www.mdaqmd.ca.gov/rules_plans/documents/CEQAGuidelines.pdf).

**F.1. Response:** Comment noted. Page III-16 is hereby amended.

**F.2. Comment:** We have reviewed the project and, based on the information available to us at this time, we have no further comments.

**F.2. Response:** Comment noted.

### **G. Tom Dodson & Associates**

**G.1. Comment:** Page I-1: As the Town is aware, the legal authority for annexation of territory to the Town resides with the Commission. The Town has the authority and responsibility to Pre-zone property prior to submitting and processing an application for annexation. After reviewing the whole Draft EIR I did not find a reference to a Pre-zone designation(s) for the two areas (2008-001 and -002) evaluated for annexation. Without such Pre-zone designations and an evaluation of the impacts associated with the proposed Pre-zone designations, it may not be possible to rely upon the Draft EIR as a base environmental document for future annexation requests. Please clarify this issue and the status of the Town's efforts to Pre-zone the two proposed annexation areas. If the Town is pre-zoning the two annexation areas, then it needs to clearly identify this.

**G.1. Response:** The process of annexation cannot occur until the General Plan and Annexation area land use designations have been adopted by the Town. As such, the pre-zoning of Annexation 2008-001 and 2008-002 will occur subsequent to the completion of the General Plan adoption process. The Town's zoning designations are consistent with, and in most cases identical to, its General Plan designations. The impacts associated with this pre-zoning will therefore be identical to those identified for the General Plan land use designations proposed for these lands. The preparation of the pre-zoning ordinance, and the other application materials required to make application for annexation of these lands will occur later this year. The Town will include, as required by CEQA, environmental review of these applications at that time.

**G.2. Comment:** Page I-1: Throughout the document the two proposed annexations are identified in various ways, i.e., annexation areas, two planned annexations, proposed annexations, etc. I could find no clarification regarding the status of the "proposed annexations." First, it would help the Commission if all references to the proposed annexation areas are consistent throughout the document. Second, have the applications for Annexations No. 2008-001 and No. 2008-002 been submitted to LAFCO for processing? If so, what is their current status? Or are these two areas identified for future submittal of annexation applications to LAFCO and simply being identified with these annexation numbers for reference only? Please clarify.

**G.2. Response:** Please see response G.1., above. The referenced numbers used for the annexations are Town Planning Division case numbers. No application for annexation has yet been made to LAFCO.

**G.3. Comment:** Page I-3: The list of agencies that will review the Draft EIR does not include the San Bernardino County Local Agency Formation Commission. Please revise this list to include the LAFCO.

**G.3. Response:** Comment noted. Page I-3 is hereby amended.

- G.4. Comment:** Page 1-5: Before considering annexation, it will be necessary for the Town to establish Pre-zone designations for any proposed annexation areas. This would appear to be the appropriate time to conduct the environmental evaluation of areas proposed to be incorporated into the Town boundaries. Please clearly identify if the Town is pre-zoning the two annexation areas as part of this document.
- G.4. Response:** Please see response G.1., above.
- G.5. Comment:** Page I-11: First paragraph under Surrounding Land Uses, I believe that the San Gabriel Mountains are located southwest of the Town, not south. Please revise the text accordingly. See also page II-3 for the same change.
- G.5. Response:** Comment noted. Pages I-11 and II-3 are hereby amended.
- G.6. Comment:** Page I-27: Identify the pre-zone designations for the two annexation areas.
- G.6. Response:** Please see response G.1., above.
- G.7. Comment:** Page II-5: Second paragraph, should Sonoran be Mojave?
- G.7. Response:** Comment noted. Page II-5 is hereby amended.
- G.8. Comment:** Page II-7: Top paragraph, should “Highway 56” be “Highway 58”?
- G.8. Response:** Comment noted. Page II-7 is hereby amended.
- G.9. Comment:** Page II-8: First paragraph Under G., it is not clear that the MWA has management responsibility for any “surface” within its service area. I assume the text means “surface water resources,” but I am not aware of any surface water management responsibilities by MWA. Please clarify.
- G.9. Response:** As stated in the EIR, MWA has responsibility for the reliability of surface water and ground water in the Mojave River Groundwater Basin.
- G.10. Comment:** Bottom paragraph, the reference to 82,400 acre feet of water is not clear based on the text discussion. I assume that the EIR is referencing the estimated amount of average annual recharge to the Mojave River Basin, because groundwater in storage, even in the Alto Subarea, is substantially greater than this volume. Also, the value 34,700 acre-feet of water appears to reference the estimated amount of average annual recharge to the Alto Subarea. Please clarify how these values address water resources available within the Mojave River Basin.
- G.10. Response:** The data regarding the Alto sub-area reflects the net average annual water supply in the Alto Subarea, based on surface and subsurface inflows, percolation of precipitation, and wastewater import, less surface and subsurface water outflow

and phreatophyte consumption. The Regional Water Management Plan states that “Average water supplies derived from a specific period of record are typically selected to be representative of long-term water supply conditions...Determining average water supplies in this manner provides some certainty to the process of planning for the quantity of water that should be available and can accrue to groundwater storage.”

**G.11. Comment:** Page II-9, top paragraph, the reference to Bell Mountain Wash appears to be limited to the natural tributaries originating within the project area, as numerous other tributaries, many comparable to Bell Mountain exist within the Mojave River drainage basin. Please clarify.

**G.11. Response:** The context of the discussion is the Alto subarea of the Mojave River Groundwater Basin. The reference to the Bell Mountain wash and “numerous other unnamed washes” in the EIR does not refer to the River’s entire drainage area, but to that area tributary to the Alto subarea.

**G.12. Comment:** Second to bottom paragraph, nitrate concentrations for public health purposes are typically limited to 10 ppm instead of 45 ppm due to potential damage to babies. The text may need to be revised to address this issue.

**G.12. Response:** The water quality standards cited in the EIR are state standards, as described in the AVRWC 2006/2007 Annual Water Quality Report. The state MCL and MCLG for these contaminants are current as of the Feb. 9, 2009 update to the MCL’s, DLR’s and PHG’s for Regulated Drinking Water Contaminants published by the California Department of Public Health. (<http://www.cdph.ca.gov/certlic/drinkingwater/Pages/MCLsandPHGs.aspx>)

Federal water quality standards for Nitrate (measured as Nitrogen) are as follows:

MCLG: 10 ppm  
MCL or TT\*: 10 ppm

\*Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

(National Primary Drinking Water Regulations, List of Contaminants & Their MCLs, <http://www.epa.gov/safewater/contaminants/index.html#1>, accessed April 23, 2009.)

As described on page III-154 of the EIR, data from AVRWC and Golden State Water Company wells indicate that the 10 ppm standard for nitrates cited by the commentor is being complied with.

**G.13. Comment:** Page II-10: Bottom of page, since the Arroyo Toad occurs within the Mojave River upstream of the Mojave Forks Dam, the text may need to be revised to

identify it as an amphibian species associated with the southern area of the Mojave River corridor. Also, the desert tortoise is a fairly common reptile in the Town.

**G.13. Response:** The reference made to species of amphibians is representative, not comprehensive in the environmental setting section of the EIR. A comprehensive list of common and special status species is provided in Section III-D and Appendix B of the EIR. Finally, the desert tortoise is not a common reptile. The desert tortoise is classified as Threatened by both the California and federal governments.

**G.14. Comment:** Page II-13: First paragraph under Air Quality, there are no San Bernardino and Los Angeles County air basins, only the South Coast Air Basin.

**G.14. Response:** The commentor is incorrect. Please consult [http://www.aqmd.gov/titlev/areamap\\_mst.html](http://www.aqmd.gov/titlev/areamap_mst.html) for a map of the air basins under the jurisdiction of the SCAQMD. The subbasins are two of several in the South Coast Air Quality Management District's area. The intent of the sentence was to indicate that air quality is due to emissions occurring outside Apple Valley.

**G.15. Comment:** Page II-14: Top paragraph, the text that reads "Particulate matter and consists of" appears to be a misprint. Please clarify. Also, MDAQMD has established values for annual emissions, but as far as I know they do not have adopted thresholds of significance like the South Coast Air Quality Management District. Please verify this statement.

**G.15. Response:** In the cited text, the word "and" should be removed. Regarding the comment on thresholds of significance, the commentor is incorrect. The MDAQMD has established daily thresholds, used throughout Section III-C of the EIR. Please see Table III-1, on page III-11.

**G.16. Comment:** Page II-14: Third paragraph, in the parenthesis for stationary sources, please include the term "equipment" since not all stationary sources are for energy and natural gas. Also note, that the SCAQMD terms energy and natural gas consumption as "area sources" as opposed to pieces of equipment that are stationary sources.

**G.16. Response:** Comment noted.

**G.17. Comment:** Page II-16: First paragraph under Domestic Water, again note that MWA has no control over reliability of surface water as it is a natural phenomenon. Also, since this is the first use of "SWP" suggest defining what it is

**G.17. Response:** As stated on page II-16, MWA is responsible for "managing the long-term reliability of surface and groundwater within its service area." (emphasis added) The statement is correct. Secondly, the first reference to SWP is on page II-8, where both the full title and the abbreviation are provided.

**G.18. Comment:** Page II-18: Second paragraph under Fire Protection, what is the current ratio relative to the desired ratio?

**G.18. Response:** As stated on page III-235, the District has a desired staffing ratio of approximately 1 full-time fire personnel per 1,500 persons, and currently exceeds its desired ratio.

**G.19. Comment:** First paragraph under Police Protection, what is the current ratio for officers per population?

**G.19. Response:** As described on page III-232, the Department has a desired staffing ratio of 1 deputy per 1,500 residents, and currently exceeds its desired ratio.

**G.20. Comment:** Page III-2: Second paragraph, this location description is confusing. Please revise, as the Town is not located between Victorville and Hesperia. Please correct.

**G.20. Response:** The Town is bounded on its southwest boundary by Hesperia, and on its northwest boundary by Victorville. The description is correct.

**G.21. Comment:** III-3: First paragraph under Annexation Areas, please clarify the surrounding land uses are around the annexation areas into which the proposed General Plan land uses will be integrated.

**G.21. Response:** As stated under “Surrounding Land Uses,” page I-11 ff.,

“...lands to the northwest are within unincorporated San Bernardino County and comprise the proposed Annexation 2008-001, comprised of largely undeveloped desert lands.”

And:

“Lands to the east are within unincorporated San Bernardino County and include portions of the Town’s Sphere of Influence as well as federal lands administered by the Bureau of Land Management. These lands are largely vacant, undeveloped and sparsely populated desert and mountainous areas, with some residential and industrial development, including the aforementioned Black Mountain Quarry operation that is located within the proposed Northeast Industrial annexation area, which lies east of the Town. County land use designations on lands to the east of the Town are predominantly Rural Living, but also include Regional and Community Industrial, Resource Conservation, and to a limited extent, Single Residential and General Commercial.”

**G.22. Comment:** Page II-4 (sic): Summary of Impacts, as a general comment, the analysis of impacts for almost all issues provides very general impact conclusions without

any quantification or characterization. Then, based on these very generalized impact conclusions a finding is generally made that these impacts can be reduced to a less than significant level, without any discussion of how this is achieved. Just listing measures does not demonstrate how impacts are reduced or eliminated. For example, in this instance it is concluded that the change visual character of land from open desert to either an urban or suburban visual setting, sometimes encompassing thousands of acres, can be mitigated by design guidelines that will make the urban environment visually acceptable. However, this ignores the fundamental change of the landscape from open space to urban setting which is what should be evaluated. There is no mitigation for such a change, and the analysis should focus on this impact, not on whether the urban setting can be made visually appealing. The same applies to light and glare issues, there are no lights and no glare in the open desert, but there will be lights and glare in the urban setting. This is an unavoidable change. If the Town finds that it is not a significant impact, the rationale why should be incorporated into the impact findings.

**G.22. Response:** The impact analysis for each issue area is quantified wherever possible. Aesthetic resources are not quantifiable, as the analysis is qualitative. Issues associated with land use compatibility or urbanization are addressed in Section III-J. Section III-J concludes correctly that impacts associated with land use will be significant in Annexation 2008-001, and that no mitigation measures can mitigate these impacts to less than significant levels.

Page III-3 of the EIR notes that continued urbanization in undeveloped areas would change natural features and appearances to a man-made built environment. While the conversion of open space to developed uses is a change in visual character, it is not necessarily to be viewed as a negative or significant impact. With compliance to the mitigation measures listed in the EIR, which mandate visually appealing development, the Town finds that resulting visual character would not represent a significant impact on the environment.

Impacts to scenic vistas and scenic resources such as historic structures and stands of trees are analyzed in Section III-A. In this section, the character of the visual resources are identified as the mountains surrounding the Town. In the context of these resources, the EIR identifies that future development under the General Plan will be consistent with existing development, insofar as the General Plan includes policies and programs which require careful site design, high quality architecture, and the preservation of open space areas. The EIR concludes that these impacts will be less than significant with the implementation of mitigation measures, and so states on page III-4.

As relates to impacts associated with light and glare, the EIR does not state that there will be no impact associated with build out of the General Plan or Annexation Areas. The EIR states that there will be impacts, which can be reduced to less than significant levels with the implementation of mitigation

measures. Specifically, mitigation measures #4 and #5 on page III-5 would control light and glare impacts. The Town concludes that the increased lighting that would occur due to buildout of the General Plan would be less than significant if controlled in this manner.

**G.23. Comment:** Page III-9: Top of page, does the Town equate equestrian residences, small ranchettes, and hobby farms to agriculture as depicted in the thresholds of significance? Please clarify.

**G.23. Response:** The thresholds of significance for the Agricultural Resources section of the EIR include:

“Conflict with existing zoning for agricultural use, or a Williamson Act contract.”

The land uses permitted in the Deep Creek area include equestrian facilities, ranchettes raising animals or small farms. All these activities are agricultural in nature, and could be impacted by intensified land uses, should they have been implemented in the Deep Creek area. The analysis concludes that since very low intensity residential designations which allow agricultural uses are proposed in the Deep Creek area, impacts will be less than significant. The characterization and analysis are consistent with the threshold under CEQA.

**G.24. Comment:** Under mitigation measure 2, (sic) throughout the document measures requiring coordination and sharing data are identified as mitigation. Such measures are important policy and data gathering commitments, but they do not in and of themselves mitigation (sic) anything.

**G.24. Response:** The mitigation measure is appropriate, as its stated result is “to accurately reflect farmed and farmable lands within the Town limits.” The continued mapping of these areas will assure that they are correctly identified and considered in the future, as development of the General Plan occurs. It should be noted that measures requiring policy formation and data gathering are coupled with other mitigation measures requiring discrete actions. For example, mitigation measure #1 requires buffers around parcels allowing agricultural uses and more intensive land uses, in order to reduce land use conflicts that could result in impacts to agricultural activities.

**G.25. Comment:** Page III-13: Second paragraph, I believe air quality has improved over the last few decades in conjunction with improved air quality in the SoCAB. Text should be corrected.

**G.25. Response:** Air quality has improved in the past several years, however, when compared to the air quality in the 1960s or 1970s, air quality has deteriorated. The statement is correct.

- G.26. Comment:** Part (sic) III-16: First paragraph, I do not believe that the PM2.5 standard is being exceeded in the MDAB. Please check, and I believe the area is in attainment or unclassified for Federal PM2.5 standards and it may be in attainment for PM10 at the Federal level.
- G.26. Response:** Please see response F.1. The MDAB is in non-attainment for PM10 and for ozone as defined and determined by the EPA. The Basin is unclassified for PM2.5. Page III-16 is hereby amended as relates to the PM2.5 classification.
- G.27. Comment:** Page III-21: Bottom of page, actually reduced densities can reduce the vehicle miles traveled and emissions of ozone precursors.
- G.27. Response:** The commentor's opinion is noted. However, since the ozone attainment plan is based on the land use intensity contained in the currently adopted General Plan, the proposed General Plan will increase land use intensities, and will therefore not conform to the attainment plan's goals. It should also be noted that Alternative II is a less intense development scenario, and impacts relating to ozone precursors were still found to be significant.
- G.28. Comment:** Page III-22: Top of page, how much of an impact. This value should be quantified, or at least identified as a percentage increase in ozone precursors relative to existing estimated emissions.
- G.28. Response:** The impact is associated with air quality management planning, and not specific pollutants. As required under thresholds of significance, the EIR assesses whether the proposed General Plan and Annexations will "Conflict with or obstruct implementation of the applicable air quality plan." This analysis therefore focuses on consistency with ozone reduction strategies proposed for the basin, which is a qualitative analysis. However, on a broad-based basis, the existing General Plan (No Project Alternative) would generate criteria pollutant emissions 30% to 35% less than the proposed General Plan (page V-20). It can therefore be surmised that the proposed General Plan will reduce the effectiveness of the ozone management plan by a similar percentage.
- G.29. Comment:** Table III-6. The 26.4 lbs/day is based on watering disturbed construction sites.
- G.29. Response:** As provided in the SCAQMD Handbook, the 26.4 lbs/day is unmitigated, and does not assume site watering.
- G.30. Comment:** Bottom of page, a reasonable way to quantify estimates would be to assume some percentage of development of undeveloped land within the project area on an annual basis based on past experience and use that to make a forecast.
- G.30. Response:** Comment noted. The analysis would be theoretical and speculative, and would not provide accurate or credible data for use in the quantification of impacts. Impacts associated with construction will vary significantly based on project-

specific activities. Furthermore, the amount of construction that occurs in any given year within the Town will vary dramatically, dependent upon underlying economic conditions. For instance, most of the previous decade has seen a substantial amount of construction, but current economic conditions indicate that little construction could occur for several years in the Town, and it is not certain when or if previous levels of activity would resume. Given this and the fact that the buildout date of the General Plan is uncertain and likely to be decades in the future, the discussion in the EIR, focusing on project-specific analysis and mitigation, is appropriate.

**G.31. Comment:** Page III-23: The assumption that energy emissions are produced outside of the MDAB is not correct. There are several power plants within the MDAB, including Victorville, Barstow and Boron.

**G.31. Response:** Comment noted. Although there are power plants in the basin, the Town cannot control where Southern California Edison produces the power used in the Town. Since the utility has facilities which generate power throughout southern California and elsewhere, and also purchases power from outside sources, the statement is valid, and the impacts associated with any and all of these plants is quantified in the EIR.

**G.32. Comment:** Page III-27: Please clarify whether the increased emissions are total from General Plan buildout or the net increment from developing undeveloped property.

**G.32. Response:** All emissions calculations are based on the potential emissions from all lands within the General Plan and Annexation areas at build out of these lands. The emissions therefore include current development and development which will occur in the future. In addition, emissions at build out of each of the Annexation areas (existing development plus future development) is calculated separately.

**G.33. Comment:** Page III-28: Bottom of page, please clarify how the term “indirect” is being used regarding electricity use since the electricity is being used by development with the Town.

**G.33. Response:** The GHG emissions calculated are generated at the power plant, not at the end user, hence the use of the term indirect. Given this clarification, no revision of the EIR is necessary.

**G.34. Comment:** Page III-29: What is the current percent of total GHG emissions of total California emission (sic)?

**G.34. Response:** The existing emissions in Apple Valley represent 0.14% of existing California emissions (see response #H.8, below).

- G.35. Comment:** Page III-31: Probably need to note the level of emission under the existing environmental setting in both proposed annexation areas and the potential level of emissions with buildout under County jurisdiction.
- G.35. Response:** Annexation 2008-001 currently contains only scattered single family homes. Approximately 50 homes occur within the area. GHG emissions from these homes are minimal. Annexation 2008-002 does not contain any development, and therefore currently has no GHG emissions. The GHG emissions under County jurisdiction are provided in the EIR: in Table V-22 for Annexation 2008-001, and Table V-23 for Annexation 2008-002.
- G.36. Comment:** Page III-32: Do the GHG emissions from annexation areas represent a significant impact? Same on Page III-34.
- G.36. Response:** As stated on pages III-29 and III-30, the development of the proposed General Plan and Annexations will result in significant and unavoidable GHG impacts. The assumptions made in the EIR are based on currently vacant lands, plus existing development. Vacant lands, including the two annexation areas, do not generate GHG emissions. Based on the AB 32 targets of reducing GHG emissions to 1990 levels, any development on currently vacant lands will have a significant impact on GHG emissions, since these emissions will exceed 1990 emissions. As stated on page III-32, build out of Annexation 2008-001 would result in 375,691.58 metric tons of CO2 equivalent emissions and Annexation 2008-002 would result in 109,721.46 metric tons of CO2 equivalent emissions (page III-34). These would be new emissions, since there are virtually no CO2 equivalent emissions in these two areas currently.
- G.37. Comment:** Page III-62: Some quantification of the net loss of plant communities/habitat for each category should be provided relative to the amount of such habitat within the town.
- G.37. Response:** The EIR is a Program document, not a project specific document. As such, quantification of habitat loss cannot be accurately assessed. However, based on the land use allocations provided in Table I-1 of the EIR, it can be estimated that 93.5% of all lands within the General Plan boundary area will be disturbed by General Plan buildout, and 6.5% of these lands will remain in their natural condition. The areas designated for open space consist of Mojave River Sand Fields, Mojave Mixed Woody Scrub, Mohave Riparian Forest, and Annual Grassland and Saltbush Scrub.
- G.38. Comment:** Page III-67: How do the biology mitigation measures reduce impacts within the town relative to the amount of habitat that will be lost?
- G.38. Response:** Please see responses B.2. and G.37. The mitigation measures provided in the Program EIR are designed to assure that biological resources are protected throughout the build out of the General Plan and Annexation areas. When projects

are proposed, the Town's responsibility is to assure that project-level analysis considers the habitat and species which could be disturbed, and assure that this disturbance is mitigated to less than significant levels. Conditions associated with each site will dictate specific actions to be taken. The General Plan EIR assures that these specific actions are dictated at the Program level, so that they can be implemented at the project specific level. The commentor's attention is also directed to Mitigation #3, which requires the preparation of site-specific surveys and subsequent mitigation, as well as Mitigation #7 and #8, which provide for the preservation as open space of viable habitat within the Town and important riparian habitat along the Mojave River.

**G.39. Comment:** Page III-101: The geology impact analysis does not address topographic modifications that will be permitted within the project area nor does it identify any differential mitigation for structures based on need to remain functional after a major seismic event, rather than just protective of safety. Please discuss.

**G.39. Response:** As described on page III-96, the Town is located on alluvial fans and is relatively level. The General Plan designates topographic features, such as Bell Mountain, for preservation as open space. There is therefore no likely impact associated with topographic modifications.

As described on page III-99, the Town requires that all structures be constructed to the current building codes, and prohibits the construction of unreinforced structures. Mitigation measures 2., 3., 8., 16., 18., 19., and 21. all directly address the construction of structures to address and mitigate seismic hazards. The information requested by the commentor is already included in the EIR.

**G.40. Comment:** Page III-108: CUPA agencies are usually local agencies, not state agencies as implied in the third paragraph.

**G.40. Response:** Comment noted. As stated on page III-109 of the EIR "The Town works with the Hazardous Materials Division (HMD) of the San Bernardino County Fire Department, which has been designated by the State as the Certified Unified Program Agency for handling hazardous waste and materials in the High Desert."

**G.41. Comment:** Page III-116: Under Annexation 2008-001 and -002, no discussion of potentially contaminated areas is provided; please check the record data bases for these areas.

**G.41. Response:** As stated on page III-112 of the EIR: "A search of the US EPA Envirofacts Data Warehouse for the Town of Apple Valley conducted on October 20, 2008 did not identify any Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Permitted Sites, or Corrective Action Sites."

**G.42. Comment:** Page III-134: NPDES, note that NPDES permits are not only for non-point source discharges, but also for direct discharges from a point source into a water body.

- G.42. Response:** Comment noted.
- G.43. Comment:** Page III-135: Top of page, note that when a 404 Permit is not required, the Regional Board has the authority to issue waste discharge requirements for discharges of fill under Porter Cologne.
- G.43. Response:** As stated on page III-134 and III-135 of the EIR: “Development within these channels may also be subject to compliance with Section 401 of the Clean Water Act through the Lahonton Regional Water Quality Control Board (LRWQCB).” The context of the discussion on this page is streambed alteration. Water quality and associated regulation is addressed in Section III-I, page III-141 ff.
- G.44. Comment:** Page III-137: Second paragraph, there is no analysis of potential impacts due to tank failure under existing conditions. Where could such flood damage occur at the present time? Please analyze.
- G.44. Response:** As stated on page III-34 of the EIR:  
“Inundation from Above-Ground Storage Tanks  
Aboveground water tanks may be damaged by strong ground shaking and rupture. Seismically induced inundation can occur if a tank is not adequately braced and baffled, which allows water to slosh within the tank, potentially lifting it off of its foundation and splitting the shell. Pipes leading to and from the tank may also be severed or damaged, thereby releasing water. Although the Town of Apple Valley does not store or distribute water or own water storage tanks, there are several water purveyors serving Town, each of which maintains aboveground water storage reservoirs located throughout the planning area. Water tanks constructed in recent years are expected to meet current earthquake design standards, however this is not necessarily true of older tanks, which may lack seismic upgrades, such as flexible joints, that are designed to limit potential for tank failure and resulting flooding and damage to downstream areas. These issues are further discussed under Project Impacts and Mitigation Measures, below.”
- As stated on page III-136 of the EIR: “Finally, inundation associated with water tank failure as a result of seismic activity poses a hazard in the planning area, as many aboveground storage tanks were constructed prior to current design criteria. As discussed under Mitigation Measures, below, all existing water tanks in the planning area should be evaluated and retrofitted as necessary to ensure compliance with the most current water tank design criteria and containment of potential floodwaters within a reservoir site.
- The analysis conducted for the General Plan update and Annexations is a Program EIR. Site specific analysis will occur at the project level as development is proposed within the planning area.
- G.45. Comment:** Page III-146: Top of page, it is not clear that proximity to the Mojave River causes the Alto Subarea to have the “largest water supply” in the Basin. It is

more probably (sic) that this Subarea is closest in proximity to the Basin's headwaters where most of the runoff is generated.

- G.45. Response:** Comment noted.
- G.46. Comment:** Second paragraph, the 82,400 acre-feet of water needs to be properly qualified, i.e., average annual runoff, not total volume of stored groundwater.
- G.46. Response:** Please see response G.10., above.
- G.47. Comment:** Page III-147: AVRWC paragraph, bottom lines, why is the term "may" used when it is clear that substantial additional water system infrastructure will be needed to meet future water demand.
- G.47. Response:** Comment noted. As stated in the EIR, the statement was made by Apple Valley Ranchos Water Company in their Pressure Zone document, cited on page III-147. The Town concurs that new facilities will be required to accommodate future development.
- G.48. Comment:** Golden State: What is this agency's FPA?
- G.48. Response:** According to the "Permanent Transfers of Base Annual Production Right (BAP) and 2007-08 Free Production Allowance (FPA) Reconciled for Transfers Accepted by Watermaster as of the Date of this Report, 2007-08 Water Year," Golden State's FPA is 286 acre-feet for the 2007-2008 water year.
- G.49. Comment:** Page III-151: VVWRA does not use 10,000 acre-feet of reclaimed water per year. It discharges about 8,500 acre-feet to meet downstream obligations and uses only a modest amount of the 10,000 acre-feet of treated effluent. Please contact VVWRA and obtain the correct values. MWA estimates have been significantly altered by the Wanger decisions and should be taken into account.
- G.49. Response:** As stated in the EIR, the VVWRA processes approximately 10,000 acre-feet of reclaimed water per year. It is used at the VVRWA plant, and for golf course irrigation in the City of Victorville, according to VVRWA staff. Please also see response #H.27, below, and Appendix B of this response to comments, Regional Water Supply, as they relate to the Wanger decision.
- G.50. Comment:** Page III-154: Top of page, the 1,000 mg/L for TDS is high as the primary drinking water standard is 500 mg/L for TDS.
- G.50. Response:** Comment noted. As stated in the EIR, the State Maximum Contaminant Level (MCL) is 1,000 mg/L.
- G.51. Comment:** Third paragraph, again the MCLG for nitrate may be 45 ppm, but the health protective value is 10 mg/L.

- G.51. Response:** Please see response G.12., above.
- G.52. Comment:** Page III-156: Top paragraph, most pollution control measures require some ground disturbance to install and maintain. Like most mitigation measures there is a requirement to evaluate the environmental effects before implementation. It is not clear where the comment about no CEQA analysis for such measures comes from. Please clarify.
- G.52. Response:** As stated in the EIR, the implementation of control measures required to implement NPDES is exempt from CEQA review.
- G.53. Comment:** Second paragraph, the comparison for General Plan evaluation is not plan to plan but content of the proposed Plan with what is on the ground (sic). The potential effect of the new Plan will be all development from the point forward from the Plan's adoption. The future impacts to water demand and other water resources related effects should be calculated based on the actual potential future development.
- G.53. Response:** The commentor is incorrect. If the analysis were completed based on only new development, the total impacts (existing plus future development) would not be assessed, and the analysis would not accurately represent the breadth of the impacts at build out. As required under CEQA, the analysis has been completed to show all the potential impacts associated with the build out of the General Plan and the Annexations.
- G.54. Comment:** Third paragraph should more clearly identify that the proposed annexation areas are not within a water service purveyor area and that the assumed water purveyor will have to expand their certificated service area, a process through the PUC.
- G.54. Response:** As stated on page III-149 of the EIR: "Currently neither annexation area is serviced by any of the water purveyors listed above. Water for existing development, which is limited to scattered single-family residential development in Annexation 2008-001, and an aggregate quarry operation in Annexation 2008-002, is provided by private wells or water delivered by private haulers..."
- And on page III-156: "Water lines will need to be extended and other infrastructure constructed so that water purveyors in the Town can serve future development in the annexation areas."
- Therefore, the EIR does disclose that the Annexation Areas require both an administrative extension of a water purveyor's service area, as well as physical extension of distribution facilities.
- G.55. Comment:** Page III-160: Second paragraph, reliance on the UWMP and the assumption that additional water can be acquired does not provide a reasonable evaluation of

adequacy of water resources to meet not only Town demand, but regional cumulative demand. An appropriate independent evaluation of available water resources (imported water plus sustainable annual recharge) should be included in the Final EIR for the water supply analysis to be adequate.

- G.55. Response:** As previously stated, the document is a Program EIR. As such, the EIR discloses that the provider of 80% of the domestic water in the planning area has water supplies available to serve anticipated growth through the year 2025, and that it will be required to identify and secure additional water sources to meet demand after that date. Given the size of the planning area, and the historic growth rate of the Town, it can be estimated that the build out of the planning area will not occur until well after 2025. The EIR further discloses that Water Supply Assessments will be conducted for individual projects which require them, and that conservation measures are being implemented by the water providers, and the policies and programs of the General Plan. The analysis provide in the EIR is comprehensive and adequate.
- G.56. Comment:** III-178: Suggest describing the nexus between the pre-zone designations, the existing/proposed General Plan land use designations and annexation in this section.
- G.56. Response:** Comment noted. As previously stated, the pre-zoning of the lands located within Annexations 2008-001 and 2008-002 will occur subsequent to the adoption of the General Plan. Also as previously stated, the Town's zoning designations are identical to the land use designations proposed, and will result in identical land uses. As state law requires that zoning designations be consistent with General Plan land use designations, the Town will apply consistent zoning to the annexation lands as part of the annexation application process.
- G.57. Comment:** Page III-180: Bottom of page, there appears to be some confusion, the Black Mountain quarry is located northeast of the Town. Also, what specific Cemex operations are located in Annexation 2008-002 area, as most of them look to be northeast of the project site. Please clarify.
- G.57. Response:** The commentor is correct, as stated in the EIR, the bulk of regional mining occurs northeast of the Town limits. Cemex owns lands in Section 14, in Annexation 2008-002, a portion of which are in use for their operations.
- G.58. Comment:** Page III-185: Annexation 2008-002, the conclusion regarding land use compatibility for this area is not supported by any reference to maps and the allocated uses, suggest such references to support the conclusion that future lands uses will be compatible in this annexation area.
- G.58. Response:** Comment noted. As stated in the EIR, the land use designation proposed for Annexation 2008-002 is Planned Industrial. The operation of the adjacent quarry,

also an industrial use, is therefore compatible with the land uses proposed within the annexation area.

**G.59. Comment:** Page III-206: The noise discussion for Annexation 2008-001 does not address the I-15 Freeway adjacent to and west of this area. Please augment the data base for this area. Also, for Annexation 2008-002 the proposed mining operation may generate substantial background noise in the future and this noise source should be defined in this section of the document.

**G.59. Response:** As regards noise levels adjacent to I-15, noise monitoring was conducted adjacent to and in the area of the freeway, as shown in Exhibit III-18. These locations, and the noise levels which result from the monitoring, are described in Table III-48 (see locations 11, 10 and 18). Future noise levels along the freeway are provided in Table III-50, based on the adjacent streets, including those lands between Stoddard Wells Road and Quarry Road, in Annexation 2008-001. In Annexation 2008-002, the EIR identifies additional noise generated by both the railroad and the quarry operations. The industrial land uses proposed in this annexation area, however, will not constitute sensitive receptors, and impacts associated with the noise from the quarry operations will be minimal in this area.

**G.60. Comment:** Page III-207: Second paragraph, is the 3 dBA change as a threshold also applied to situations where background noise levels are already at or above 65 dBA CNEL? Please clarify.

**G.60. Response:** The 3 dBA increase is the accepted standard for noise perceptibility, based on FHWA noise assessment criteria. The EIR applies this threshold of significance both when background levels are below 65 dBA and when they exceed 65 dBA, since the focus of the analysis is on the incremental increase in noise caused by the build out of the General Plan. The 65 dBA standard is used to help guide the citing of noise sensitive land uses, and to trigger the implementation of project design modifications and/or other mitigation to reduce the exposure of such land uses to louder ambient noise levels.

The increase is unrelated to noise levels currently occurring which are greater than 65 dBA. Current noise levels greater than 65 dBA, if located adjacent to proposed sensitive receptors, must be mitigated when development occurs. Site specific noise assessment is required in the General Plan for future development of sensitive receptors locating adjacent to roadways with existing or future noise levels exceeding 65 dBA.

**G.61. Comment:** Page III-220: Top of page, it is not clear, but it appears that the conclusion regarding future noise effects within the Town can be controlled to a less than significant impact level, even where existing significant noise effects exist. Is this correct?

- G.61. Response:** Please see response G.60., above. As per the requirements of CEQA, the focus of the EIR is on the mitigation of the environmental impacts of the project, which here is the new development that would be allowed by the proposed General Plan.
- G.62. Comment:** Page III-230: Top of page, the text indicates developer fees being paid for industrial land uses. However, the text on page III-227 indicates fees only on commercial development. Please clarify.
- G.62. Response:** School developer fees for schools are paid by all land uses, including industrial land uses. This will be clarified in the text, as necessary.
- G.63. Comment:** Page III-233: Law Enforcement, Existing Conditions, third paragraph, with the current population what is the current ratio of sworn personnel to residents?
- G.63. Response:** Please see response G.19.. above.
- G.64. Comment:** Impacts: With the data available and using estimates is it possible to verify that there will be sufficient funds available in the future to support estimated number of sworn law enforcement personnel? If so, please provide the estimates to verify that the target ratio can be supported.
- G.64. Response:** The analysis of financial impacts is not required under CEQA. However, the land use pattern proposed does not significantly vary from that currently occurring in Apple Valley. As the current ratio exceeds that desired, it can be expected that the future development within the Town and annexation areas will support the increased demand.
- G.65. Comment:** Page III-235: Impacts. With the data available and using estimates is it possible to verify that there will be sufficient funds available in the future to support estimated number of full-time fire personnel? If so, please provide the estimates to verify that the target ratio can be supported.
- G.65. Response:** See response to comment G.64.
- G.66. Comment:** Bottom paragraph, should identify that the annexation areas are already within the Apple Valley Fire Protection District's boundary.
- G.66. Response:** As stated on page III-34, the District serves both the Town and unincorporated areas of San Bernardino County. The District's boundary is also described on page II-18.
- G.67. Comment:** Page III-238: Impacts, what is DVMC, could not find the term for the acronym?
- G.67. Response:** Desert Valley Medical Center.

- G.68. Comment:** Page III-239: The conclusion at the bottom of the page regarding adequacy of future electricity supply is vague, probably intentionally. Suggest that the Town consider providing incentives to future developers to exceed State energy conservation standards, up and including a hierarchy of incentives leading up to LEEDs certification for future projects. The same applies to natural gas use.
- G.68. Response:** Comment noted. The General Plan includes policies and programs which include incentives for green building techniques. In addition, please see mitigation measures 1 through 24 on pages III-39 through III-41. While the exact manner in which Edison will accommodate future electrical demands is difficult to predict since the General Plan will be built out over several decades, as part of its utility status, it has the implicit duty to provide electrical service within its service area and to anticipate and accommodate growth, which it has done for decades. The commentor has not provided any real basis for questioning the ability of Edison to meet a gradual increase in electrical demand over the next several decades.
- G.69. Comment:** Page III-242: Top of page, no discussion or estimates of the volume of use of propane within the community or its use in the future is provided in this discussion.
- G.69. Response:** Although its use is identified on page III-240, future development is not anticipated to require propane use, as the Town and annexation areas are expected to develop with natural gas facilities. Therefore, further discussion regarding increased demands on propane supplies is not germane, as no significant impacts would occur.
- G.70. Comment:** Page III-244: Impacts, second paragraph, although the detailed discussion of water resources is provided in the hydrology section of the Draft EIR, it would be appropriate to include a finding regarding potential significant impact in this section addressing water supply.
- G.70. Response:** Section III-I, Water Resources is referenced multiple times in the discussion cited. The analysis and quantification of impacts, and the mitigation measures associated with water resources, are contained in that section. The determination of significance is contained in that section, which is appropriate.
- G.71. Comment:** As mitigation, suggest addressing the need for expansion of the private purveyors certificated (sic) service areas within the annexation areas.
- G.71. Response:** Please see response G.70., above.
- G.72. Comment:** Page III-247: Top of page, based on the text, it is not clear whether the impact forecast includes commercial and industrial wastewater generation as part of the future generation forecast. Also, the need for industrial pretreatment is not addressed in this section of the document. Does the Town presently carry out pretreatment programs? Please clarify.

- G.72. Response:** Wastewater generation is calculated on a per capita basis, averaged over total generation for all land uses. Therefore, the anticipated wastewater generation accounts for residential, commercial and industrial uses. Pretreatment is required for only certain heavy industrial uses, which are not likely to occur under the Town's Development Code. No pretreatment facilities are currently provided in Town.
- G.73. Comment:** Second paragraph, it would assist the analysis of future required wastewater services for the proposed annexation areas if a graphic was provided to identify where the Town's existing sewer lines are in relation to these areas.
- G.73. Response:** Comment noted. The requested exhibit is available from the Town's Planning Division. Particulars relating to the location of existing services will be included in the application materials prepared for the Annexations, which require a Plan of Services.
- G.74. Comment:** Page III-248: Existing Conditions, suggest providing a conversion ratio between ton and cubic yards to facilitate moving from one value to another.
- G.74. Response:** Comment noted. There is no direct relationship between tonnage and cubic yards.
- G.75. Comment:** Page III-252: The conclusion regarding significance of solid waste generation at buildout was not clear. For example, given the 950,712 tons of waste generated at buildout, a total of 2,604 tons of waste would be generated each day, which equates to about 90% of the current disposal capacity at the Victorville Landfill. The volume of future waste generation needs to be placed in context of the existing resources to appropriate planning for additional daily capacity can be included in the County's solid waste management planning process.
- G.75. Response:** The impacts associated with solid waste at build out of the General Plan and Annexations is expected to be less than significant. Although the total amount of solid waste is expected to increase, the amounts of waste being diverted to recycling are also expected to increase, as technologies improve and awareness of the Town's residents grows. Sufficient capacity exists at the Victorville landfill, and expanded or alternative sites are likely to develop during the life of the General Plan.
- G.76. Comment:** Introduction or Existing Conditions, suggest identifying that the Town has the obligation to serve outside its corporate boundaries when the Apple Valley Recreation and Park District (AVRPD) was dissolved and the Town was named successor agency in 2001.
- G.76. Response:** Comment noted. The reference is hereby added.

**G.77. Comment:** Page III-253: Identify that the annexation areas are already served by the Town through its assumption of the AVRPD.

**G.77. Response:** Comment noted. The reference is hereby added.

**G.78. Comment:** Page III-258: Bear Valley Road, is the term “channelization” correctly used. If so, what does it mean?

**G.78. Response:** The term is correctly used. In the context of traffic flow, the term refers to traffic being channeled, or directed, into a dedicated lane.

**G.79. Comment:** Page III-276: Apple Valley Airport, the runway widths and lengths are reversed, either that or these are really short runways! Please correct.

**G.79. Response:** Comment noted. The sentence is amended to read “runway 18/36 is approximately 6,500 feet long by 150 feet wide, and runway 8/26 is approximately 4,100 feet long by 60 feet wide.”

**G.80. Comment:** Page III-286 through Page III-306: Traffic Impact Findings, although the data and analysis are summarized in this section, there is no clear conclusion established for roadways, intersections, and adequacy of other circulation system components such as truck routes, bike trails, etc. Please incorporate such findings in the Final EIR.

**G.80. Response:** The impacts of General Plan build out on roadway segments is shown in Table III-62, and the accompanying text. As described in that Table, 8 roadway segments are shown as “Potentially Exceeds Capacity.” As described in the text, and included in the mitigation measures, the General Plan includes policies and programs which require that the traffic flows on Town roadway segments be monitored regularly (mitigation measures #16 and 17). As the build out of the General Plan will occur over a long period of time, traffic patterns are likely to change, and the ongoing monitoring will assure that these changes are reflected in roadway design and improvements.

As stated on page III-309, all studied intersections except the intersection of Dale Evans Parkway and Corwin Road are expected to operate at acceptable levels of service at General Plan and Annexation build out. The EIR clearly states that the impacts associated with this intersection cannot be mitigated, and that impacts will remain significant and unavoidable.

As stated on pages III-300, truck routes are designed to provide commercial and industrial traffic with access to the Town’s commercial and industrial land uses. The truck routes are adequate to serve the Town’s commercial and industrial land uses, and impacts are expected to be less than significant.

As stated on pages III-302 through III-306 of the EIR, the General Plan provides a comprehensive, interconnected system of bicycle lanes and multi-use trails, which is interconnected and includes connections to trails in other jurisdictions surrounding the Town. The construction of these trails will continue in conjunction with development through the build out of the General Plan. Impacts are expected to be less than significant.

**G.81. Comment:** Page IV-3: The Town may want to consider making a finding that regional water resources and water supply issues are unavoidable significant impacts at this time, based on the fact that future water supply adequacy for the Town and region is based on assumptions of imported water availability that may not be valid and of future access to additional imported water supplies, which are not identified.

**G.81. Response:** Please see response G.55., above, and Appendix B of this response to comments.

**G.82. Comment:** Page V-80: First paragraph, line 6, change “no” to “not”. An explanation of why the No Project alternative no longer meets project objectives would assist the rationale here.

**G.82. Response:** Comment noted. The EIR states that the No Project Alternative no longer meets the community’s needs, as evidenced by the extensive community input received on the General Plan update.

**G.83. Comment:** Page VI-2: Second paragraph, since the project will contribute to cumulative reduction in groundwater, i.e., overdraft, a finding of significant cumulative impact on water resources of the region would appear to be justified. See previous comment, Page IV-3.

**G.83. Response:** Please see response G.55., above.

**G.84. Comment:** Page VII-2: Is the irreversible and irretrievable commitment of resources a significant effect of implementing the preferred General Plan?

**G.84. Response:** The impacts associated with energy, biological, visual and mineral resources are addressed in the appropriate sections of Section III of the EIR. In Section III, none of these impacts are found to be significant and unavoidable. With regard to the analysis contained in Section VII, it is indicated that while there will be an irreversible commitment of resources, over time these impacts will be less and less due to increased conservation and enhanced technologies. This impact would be less than significant.

**G.85. Comment:** Page VIII-7: An interesting issue arises based on the discussion of cumulative impacts, which are identified as being significant and adverse. It may be appropriate to include the list of cumulatively considerable adverse impacts resulting from implementing the preferred General Plan in Chapter 4, Unavoidable Significant Impacts.

**G.85. Response:** Comment noted. The significant cumulative impacts of the Project will be added to Section IV of the EIR.

## **H. Center for Biological Diversity**

**Comment H.1:** The Center is deeply concerned with the EIR’s failure to address the global warming impacts of the Project in a manner consistent with the California Environmental Quality Act (“CEQA”). While the EIR acknowledges the significant impact of the Project’s greenhouse gas emissions, in direct contravention of CEQA, the EIR fails to adopt enforceable and specific measures to mitigate this impact. Similar to the deficiencies in the County of San Bernardino General Plan the Apple Valley General Plan fails to adopt greenhouse gas emissions reductions targets, monitoring programs to track greenhouse gas emissions, mitigation to reduce increasing greenhouse gas emissions, and any analysis of the effects of climate change within the Project Area.

**Response H.1:** The commentor is incorrect. The EIR includes a comprehensive discussion of existing conditions, impacts and mitigation measures associated with the generation of greenhouse gases (GHG) as a result of project implementation. The EIR includes a discussion of the currently available data relating to GHG on pages II-14 and III-20 ff.. The impacts associated with build out of the General Plan and Annexations are discussed and quantified on page III-21 ff., and in Appendix H of the EIR. Mitigation measures specifically directed to GHG reduction are provided on page III-39 ff..

The EIR specifically identifies the target established in the California Global Warming Solutions Act, and identifies the Town’s contribution to these future targets following Tables III-14, III-17, and III-19.

Further detail is provided in the responses below.

**Comment H.2:** To adequately address the Project’s greenhouse gas impacts, the Town should develop a climate action plan along with the General Plan that sets forth specific measures to reach specified emission reduction targets. An effective climate action plan, which would call for compact “smart growth” development as well as measures requiring energy efficiency, renewable energy and water conservation would not only reduce the Town’s greenhouse gas emissions but provide significant economic benefits. Adoption of an effective climate action plan can also allow projects to tier off the plan, rather than conduct a project-by-project GHG analysis as currently required under CEQA. Rather than attempt to skate through the General Plan Update process with a faulty global warming analysis, the Center urges the Town to seize the opportunity to develop a forward-thinking plan for future growth.

**Response H.2:** Comment noted. A climate action plan is not required under any of the current legislation regarding GHG. The Town has, through the General Plan, already taken significant steps to reducing GHG emissions for future development. These include the creation and implementation of the Mixed Use land use designation, assigned to 383.2 acres of land on major transportation corridors throughout the

community. The Mixed Use designation requires the design of projects which incorporate both commercial and high density residential land uses on the same site, thereby reducing vehicle miles traveled (VMT), and lowering GHG emissions. The General Plan also includes participation in the San Bernardino Green Valley Initiative, promulgated by San Bernardino County, and requiring that the Town assign staff to its implementation, and meet the policies and programs established by the Initiative. Finally, as demonstrated in the EIR, the proposed General Plan will result in the Town generating enough jobs to allow all residents to work in the community. Since over 30% of current Town residents commute more than 30 minutes to work, reflecting the high percentage of residents who work in the Riverside/San Bernardino area, the proposed General Plan land use pattern clearly provides for reductions in GHG emissions through its design, as well as through the mitigation measures included in the EIR.

However, in order to provide the most comprehensive mitigation measures for the implementation of the General Plan, the greenhouse gas mitigation measures (pages III-39-III-41) are hereby amended as follows:

1. Design and implement land uses that encourage job/housing proximity or easy access to transit opportunities including high density development along transit corridors, compact mixed use projects, and urban villages that maximize affordable housing and encourage biking, walking, and the use of public transit. This can be accomplished through the implementation of the goals, policies and programs of the Medium Density Residential and Mixed Use land use designations and, as appropriate, implementation of specific plans in targeted areas where the opportunities for such development can be created through advance planning. Transit corridors to be focused on high density development are along Bear Valley Road, Highway 18, Dale Evans Parkway, Apple Valley Road, Navajo Road, Central Road, and Kiowa Road. Furthermore, high density development will be targeted for the future High Desert Corridor.
2. Encourage infill, redevelopment, mixed use, and higher density development in appropriate areas of the Town where existing development can serve as the foundation for the creation of new urban villages. . Such development would be focused around the southern portion of the Town near the major intersections of Bear Valley Road, such as its intersections with Apple Valley Road, Kiowa Road and Navajo Road. Other areas targeted for development include those along Highway 18 and Dale Evans Parkway.
3. In order to reduce vehicle miles traveled and greenhouse gas emissions, mixed use projects with a maximum density of 30 dwelling units per acre shall be developed in the core of Apple Valley on infill lots and/or adjacent to transportation corridors (such as Bear Valley Road, Highway 18, and Dale Evans Parkway) and existing and future job centers.
4. Incentive programs shall be offered for affordable Medium Density Residential infill projects (maximum 20 dwelling units per acre) within the

- core of Apple Valley and/or adjacent to transportation corridors and existing and proposed job centers. This will help to reduce the vehicle miles traveled and greenhouse gas emissions.
5. Infill in the Mountain Vista Neighborhood is encouraged and incentives shall be offered by the Town for projects greater than 20 units in size. Infill and higher densities in this existing neighborhood will reduce the amount of vehicle miles traveled.
  6. Mobile Home Park development shall be encouraged through the creation of the Mobile Home Park Land Use Designation. This will encourage higher density residential development along transportation corridors and adjacent to existing and future job centers. As a result, this should help reduce vehicle miles traveled and greenhouse gas emissions.
  7. The Town shall encourage and promote the development of the North Apple Valley Industrial Specific Plan to create a job center with productive industries, which will reduce the vehicle miles traveled of high desert residents that typically have to drive to employment centers in the San Bernardino Valley, as well as the Riverside City and County portions of the Inland Empire for work. The Town shall reduce the approval time for entitlements and permit process for industrial projects within this area. The industrial development also supports a broad-based economy and encourages a jobs housing balance.
  8. The Town shall permit childcare facilities in single-family and multi-family residential zones, as well as, in the commercial and industrial areas where employment is concentrated. This will encourage the reduction of vehicle miles traveled.
  9. New developments shall be encouraged to include housing, recreational, and retail amenities, so as to limit the number of vehicle miles traveled by providing accessible and desirable amenities onsite.
  10. All new development shall be required to install infrastructure prior to occupancy, which will encourage a well planned, orderly development pattern.
  11. Advanced technology systems and effective management strategies shall be employed in order to improve the operational efficiency of transportation systems and the movement of people, goods, and services including synchronization of traffic lights and signals. New development that requires roadway and/or intersection improvements will be required to install such improvements such that these advanced traffic management systems may be easily implemented by the Town.
  12. New projects shall incorporate design parameters that allow for frequent, reliable, and convenient public transit.
  13. The Town shall expand and develop an integrated and comprehensive bikeway, walking path and trail system. The expansion of a regional trail system shall be in consultation with neighboring communities to improve the overall Victor Valley system.
  14. Street and travel corridors shall be monitored and maintained to assure that congested areas and intersections are rectified.

15. Idling time for commercial, delivery, and construction vehicles shall be regulated and limited.
16. Landscaping designs shall use trees and other vegetation to maximize the shading of buildings in order to reduce energy requirements for heating and cooling.
17. Planting and preserving existing trees shall be utilized as means of providing carbon storage. Preserving existing trees shall be encouraged during the development review of new projects. The Town shall formulate minimum tree planting standards to be applied during the development review of a project.
18. Tree planting in parks and open spaces will be encouraged. Tree planting programs shall be implemented by the Town. These programs shall include an educational component that emphasizes the importance of trees as means of providing carbon storage.
19. The Town shall promote the use of LEED (Leadership in Energy and Environmental Design) building practices for public and private development by considering the utilization of such building practices as a factor favoring project approval during the entitlement process. Sustainable or “green” building standards similar to LEED shall also be considered favorably. Alternative energy systems such as solar, thermal, photovoltaics and other clean energy systems shall be integrated in building design. Building design shall take advantage of shade, prevailing winds and sun screen to promote energy efficiency.
20. The Town shall encourage the use of energy saving measures beyond the requirements of Title 24 for residential and commercial projects. The incorporation of such measures shall be considered as a factor in favor of project approval during the entitlement process. An incentive program shall be developed for projects that exceed Title 24 requirements by 15% and/or achieve LEED certification or similar performance standards for building design. Incentives such as fee reductions or waivers of certain development standards shall be considered.
21. Promote the use of facilities for low/zero carbon fueled vehicles in new developments, such as the charging of electric vehicles from green electricity sources.
22. The Town will encourage and facilitate the exploitation of local renewable resources by supporting public and private initiatives to develop and operate alternative systems of electricity generation, using wind, solar and other renewable energies.
23. Promote educational programs directed at the public, schools, professional associations, businesses, and industries that offer strategies for reducing GHG emissions.
24. Initiate a program to replace existing traffic lights, street lights, and other electrical uses to energy efficient bulbs and appliances. Encourage new lighting to be energy efficient. The Town shall require that lighting in all Town facilities be replaced with energy efficient fixtures as existing fixtures fail and require replacement.

25. Utilize Energy Star equipment and appliances for new development and encourage replacement appliances to be energy efficient. The voluntary commitment to such a requirement by project applicants shall be considered a factor in favor of project approval.
26. Promote the use of on-site renewable energy production including installation of photovoltaic cells or other solar options. The Town shall encourage the use of solar cells in private development and consider such project features favorably during project review. The Town shall investigate the cost effectiveness of installing such solar cells on Town buildings for the purposes of powering Town facilities and possibly selling excess “clean” energy back to the SCE power grid, pursuant to state law.
27. Consider an Energy Savings Performance Contract with a private entity to retrofit public buildings, which will allow the private entity to fund all energy improvements in exchange for a share of the energy savings over a period of time.
28. Utilize the Collaborative for High Performance Schools (CHPS) best practices for school design, building, and operation.
29. Replace or retrofit municipal water and wastewater systems with energy efficient motors, pumps, and other equipment, and recover wastewater treatment methane for energy production.
30. Capture and utilize landfill gas for use as an energy source including fuel for vehicles, operating equipment, and heating buildings.
31. Promote the use of vehicles and buses that use alternative fuels or technologies such as hybrids, biodiesel, and ethanol. The Town’s vehicle fleet shall be transitioned to alternative fuels to the extent economically feasible.
32. The Town shall promote the use of mass transit services, coordinating with all agencies to link residential and commercial businesses and employment centers within the Town’s residential neighborhoods and nearby communities. Mass transit services shall be expanded as needed within the context of economic feasibility.
33. Ride sharing, carpooling, flexible work scheduling, telecommuting and Park & Ride programs shall be encouraged for public and private employers.
34. The Town shall assess the local transportation system annually with a view to gaining greater efficiency in the movement of people and goods through the community. Opportunities to expand the public transit system, using buses equipped with bicycle racks and fueled by compressed natural gas or hydrogen will be maximized. Widespread use of pedestrian pathways and alternative means of transportation, such as bicycles and electric hybrid vehicles will be facilitated and encouraged.
35. Offer incentives to private businesses for developing energy and water efficient features and building materials, such as expedited plan checks and reduced permit fees.
36. Offer rebates and low interest loans to residents that make energy saving improvements on their homes, including but not limited to the installation of solar cells and panels.

37. Incentives shall be provided for rehabilitation and remodeling of existing development. Assistance from the Town shall be provided through the Residential Rehabilitation Loan Program to improve energy efficiency of existing residences. Educational materials shall be provided to the public advising them of energy efficiency through available appliance programs and other energy conservation improvements that are eligible for the Residential Rehabilitation Loan Program.
38. The Town shall consider incentive programs, rebates and refunds for the use of energy efficient appliances, windows and building designs for new and remodeled structures. The incentive program could also include incentives for the use of recycled materials.
39. Encourage bicycle lanes and walking paths directed to the location of schools, parks, and other destination points. The provision of such facilities will be considered favorably during project review pursuant to the General Plan's Circulation Element.
40. The Town will implement a program to install photo voltaic systems on the buildings and carports located at the Public Works facility and Town Hall/Police Department, which will provide electricity for the Civic Center and the Public Works/Animal Control facilities. This will improve the energy efficiency of these facilities.
41. Prior to July 15, 2010, the Town shall develop and adopt a Climate Action Plan ("CAP") that enhances the General Plan's goals, policies and programs relating to meeting the greenhouse gas emission targets established in the California Global Warming Solutions Act, including reducing emissions to 1990 levels by including an emissions inventory; emission targets that apply at reasonable intervals through the life of the plan; enforceable GHG control measures; monitoring and reporting; and mechanisms to allow for the revision of the plan, if necessary, to stay on target. The goal of the CAP shall be to reduce greenhouse gas emissions within the Town's control the achieve the emission reduction goals required by AB 32, as further developed and quantified by the California Air Resources Board. The CAP shall quantify the approximate greenhouse gas emissions reductions of each measure developed with the CAP, and shall consider the mechanisms, strategies and techniques included above.

The addition of this mitigation measure does not change the findings of the EIR, nor does it introduce significant new information relating to GHG emissions. Recirculation of the EIR is therefore not required.

**Comment H.3:** In addition, the EIR's analysis of the Project's impacts to biological impacts and water supply is also fundamentally flawed. A revised EIR must be developed to remedy these deficiencies and recirculated for public review.

**Response H.3:** The EIR's analysis of both biological and water supply impacts is comprehensive and complete. Recirculation of the EIR is therefore not required. Also see responses #H.20 through #H.29., below.

**Comment H.4:** An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR. *County of Inyo v. City of Los Angeles*, 71 Cal.App.3d 185, 192-93 (1977). The EIR's project description is wholly inadequate as it does not indicate the time frame for the future development contemplated under the general plan or the expected growth the general plan update is expected to accommodate. Instead, the Project seems to contemplate growth for an unspecified time scale that is entirely unconnected to the projected growth the Town is expected to experience. Absent this information, it is impossible to assess the need for the land-use changes proposed in the General Plan update or to meaningfully examine alternatives. Moreover, the EIR's failure to project housing needs for a specific period of time also violates General Plan Housing Element requirements. Gov't Code § 65583.

**Response H.4:** The time frame for the build out of the General Plan is not known, nor would it assist in the analysis provided in the EIR. The influences of market and economic conditions, regional growth and political conditions will all affect the ultimate build out of the community. Given that the Town is currently less than 50% developed, build out is anticipated to require several decades. Key to the analysis is the fact that impacts have been quantified to address full build out of the General Plan and Annexation areas. As a result, all the impacts identified in the EIR have been quantified to accurately reflect conditions of the built environment when all lands are developed.

The amount of growth anticipated as a result of General Plan build out is clearly enumerated in Table I-2, which lists vacant acreage by land use category, and future residential units, commercial and industrial square footage, and public and open space lands. This Table also shows existing development, by land use type, number of residential units, and estimated square footage of existing commercial and industrial space.

The Housing Element contains all the information required by law pertaining to the Town's Regional Housing Needs Allocation (RHNA), quantifies the lands available to meet that need, and demonstrates that sufficient lands are available to meet the need for the current 2006-2014 planning period. The Town has met the requirements of Government Code § 65583.

**Comment H.5:** Fortunately, CEQA sets forth a clear and mandatory process to address the greenhouse gas and global warming impacts from a general plan update. As a potentially significant impact, the EIR must thoroughly evaluate alternatives and mitigation measures that would reduce greenhouse gas emissions. However, as proposed, the Project fails to adopt any meaningful measures to reduce the Project's greenhouse gas impacts. To comply with CEQA, the Project must adopt all feasible measures and alternatives to mitigate the greenhouse gas impacts of the Project.

**Response H.5:**

The EIR contains 24 mitigation measures directed at reducing GHG emissions. As stated in response 2, above, the Town will also prepare a Climate Action Plan. The mitigation measures include the establishment of incentives to reimburse homeowners and developers for energy efficient retrofitting, the replacement of Town-owned fixtures and equipment with energy efficient materials, and the regulation of commercial vehicles to reduce idling emissions.

Contrary to the commentor's assertion, CEQA does not require that the EIR "adopt all feasible...alternatives..." CEQA requires that an EIR "describe a range of reasonable alternatives to the project...which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project...An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation" (CEQA Guidelines §15126.6(a)). In the case of the General Plan EIR, the alternatives were developed based on the input received at the more than 50 community workshops and interviews conducted at the beginning of the process. These workshops identified a number of critical community issues, particularly issues associated with land use distribution, which were the basis for first the Vision Statement prepared for the General Plan, which led to the EIR objectives; and for the land use distribution used in each of the alternatives. The alternatives include a more intense alternative in order to determine whether the concentration of higher density residential and commercial designations would change traffic patterns and reduce VMT. The traffic analysis concluded that this would not occur, and that this alternative would not meet project objectives or reduce impacts. The Less Intense alternative maintains the Mixed Use land use category, but reduces land use intensity to reduce trip generation. This alternative, however, will still result in significant air quality impacts, as will the No Project alternative. The alternatives are also reasonable as regards the project objectives, which as previously stated are a summary of the Town's goals for the future of the community.

The range of alternatives is reasonable, and provides the Town's decision makers with a clear understanding of the potential impacts of build out of the proposed General Plan, or any of the alternatives.

**Comment H.6:**

The EIR should discuss the grave threats posed by global warming to California and the world. In particular, the EIR should disclose the significant negative environmental impacts that will result from global warming in California, including the Project area. As a significant environmental effect, CEQA requires the City to "use its best efforts to find out and disclose all that it reasonably can" to properly evaluate the impacts of the Project's greenhouse gas emissions. Guidelines §15144. By providing details as to the ranges of proposed impacts, and indicating that the higher-range of impact estimates are projected if greenhouse gas emissions continue to increase under a "business as usual"

scenario, decision-makers and the public will be better informed of the magnitude of the climate crisis and the urgency with which it must be addressed.

**Response H.6:** The full text of Guidelines §15144 is: “Drafting an EIR or preparing a Negative Declaration necessarily involves some degree of forecasting. While forecasting the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.”

As such, the EIR discloses that carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and fluorinated gases (hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) are greenhouse gases; that GHGs trap atmospheric heat and are responsible for increases in temperature of 1.0 to 1.7 degrees in the 20<sup>th</sup> century; that GHG emissions have “increased drastically;” that concentrations of carbon dioxide are greater than at any other time in earth’s history; that they are expected to rise to somewhere between 540 ppm and 970 ppm by 2100; that California enacted legislation that requires all vehicles manufactured after 2009 to reduce emissions by 30% by 2016; that AB 32 requires that GHG emissions be reduced to 1990 levels by 2020; quantifies emissions of GHG at build out of the General Plan and each Annexation area; identifies 1990 California GHG emissions and 2005 United States emissions; identifies the target GHG emissions to meet 1990 levels; and quantifies the contribution of the Town’s build out emissions to these identified emissions.

The EIR therefore not only describes the GHG issues in the local context, but also provides data on state-wide and national impacts.

**Comment H.7:** The EIR should also include a brief discussion of other laws to address climate change, including California’s mandate to reduce emissions to 1990 levels by 2020 under AB 32 and goal of further reducing emissions to 80% below 1990 levels by 2050 under Executive Order S-03-05. Achievement of state mandated emissions reductions will be severely impeded if agencies across the state continue to approve *new* projects without incorporating measures to reduce these added emissions.

**Response H.7:** See response #H.6, above. It should be noted that emission reduction measures placed on projects will be only one method of achieving this goal. Other methods would include the development of improved technology as well as the regulation of vehicular emissions. Thus, while project mitigation measures reducing emissions are an important component of the effort to achieve statewide goals, it is not necessarily the case that the approval of new projects jeopardizes those goals.

**Comment H.8:** CEQA requires that an EIR “include a description of the physical environmental conditions.” Guidelines § 15125. Part of this description must include baseline greenhouse gas emissions. Rather than provide this data, the EIR only attempts to

account for emissions at build-out. The EIR must be revised to include baseline emissions data so that the impacts of the Project can be properly assessed.

**Response H.8:** The EIR states:

“Although CEQA has yet to establish significance thresholds for greenhouse gases, for the purposes of this analysis it was assumed that development activities and operations that interfere with the objectives of AB 32 would be considered to have a significant impact. As previously mentioned, AB 32 requires a coordinated effort to curb greenhouse gas emissions within the state of California. Specifically, the Bill requires the state board to adopt a statewide greenhouse gas emissions limit, so that by the year 2020 GHG emissions are at or below 1990 emission levels.”

The EIR describes the current conditions of the Town, including the detailed description of vacant lands, by land use designation. These lands are all currently vacant. As a result, over 50% of the lands within the General Plan boundary, and all of the lands in the two annexations did not emit GHGs in 1990, and do not emit GHGs today. Any development of these lands will exceed the AB 32 mandate of reducing GHG emissions to 1990 levels, since these lands were never developed. In addition, since the General Plan proposes to develop as much land as is currently developed in the Town and the Annexations, it is infeasible and impossible for the newly developed lands and the existing development in Town to reduce GHG impacts to 1990 levels. As such, the EIR clearly states that the impacts of the development of the General Plan and annexations will represent a significant and unavoidable impact. This determination provides the Town’s decision makers with a clear understanding which they can use to determine whether to approve the General Plan.

The existing GHG emissions within the Town and Annexation areas are estimated in the Table below.

**Table 1  
 Existing GHG Summary**

<b>Emission Source</b>	<b>CO2</b>		
	<b>Equivalent Metric Tons</b>	<b>CO2 Equivalent Million Metric Tons</b>	<b>Pounds Per Day</b>
Electricity	116,002.06	0.116	700,659.65
Natural Gas	127,447.76	0.127	769,792.39
Moving Source	357,771.29	0.358	2,160,960.72
Water Transport	48,408.88	0.048	292,392.64
<b>Total</b>	<b>649,630.00</b>	<b>0.650</b>	<b>3,923,805.40</b>

**Comment H.9:** The EIR makes an initial, yet incomplete, first step in the disclosure of the Project’s greenhouse gas emissions. The EIR relies upon reporting methodology developed by the California Climate Action Registry (“CCAR”) that only

addresses three sources of greenhouse gas emissions: indirect electricity use, natural gas, and moving sources (passenger cars and light duty trucks). DEIR at App. H, Greenhouse Gas Tables. Unfortunately, this inventory and analysis fall short of OPR's minimum requirements for greenhouse gas emissions. In order to perform a "good faith analysis" as required under CEQA a greenhouse gas emissions inventory must include emissions associated with "vehicular traffic, energy consumption, water usage and construction activities." (California OPR 2008a; California Attorney General 2009).

Methodologies are readily available to inventory the emissions from the proposed project. The California Office of Planning and Research ("OPR") has released technical guidance on the preferred approach for analyzing greenhouse gas emissions and climate change entitled "Technical Advisory, CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review" (California OPR 2008a). OPR also provides references to methodologies to quantify greenhouse gas emissions. (California OPR 2008a, Attachment 2). As OPR has clearly stated "Lead agencies should make a good-faith effort, based on available information, to calculate, model, or estimate the amount of CO<sub>2</sub> and other GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities." (California OPR 2008a). In its white paper, CEQA & Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act (Jan. 2008), the California Air Pollution Control Officers Association (CAPCOA) also sets forth methodologies for analyzing greenhouse gas pollution. (CAPCOA 2008). In addition to the methodologies set forth by CAPCOA and OPR, ICLEI's Clean Air/Climate Protection (CACP) software allows cities to calculate emissions reductions, track and quantify emission outputs, and develop emissions scenarios to inform the planning process.<sup>1</sup> ICLEI also provides technical assistance and training to local government using the CACP software. Accordingly, there is no legitimate excuse for the EIR's failure to provide a coherent and complete accounting of the emissions resulting from the Project.

The greenhouse gas inventory in the EIR completely omits emissions associated with water usage and construction activities. The EIR contains no explanation for the omission of water usage. The EIR attempts to justify the omission of construction related emissions because it "is beyond the scope of this EIR" asserting that more information regarding development plans is necessary to analyze this issue. (DEIR at III-22 to 23). This is patently false. As discussed above methodologies exist to perform this quantification. Other jurisdictions performing a greenhouse gas inventory for General Plan EIRs have provided this

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<sup>1</sup> ICLEI's Clean Air/Climate Protection software is available at <http://www.cacpsoftware.org/> ICLEI-Local Governments for Sustainability is an international association of more than 650 local governments. Cities, counties, towns and villages around the world are members of ICLEI. ICLEI's mission is to improve the global environment through local action. On the issue of global warming, for example, ICLEI provides resources, tools, peer networking, best practices, and technical assistance to help local governments measure and reduce greenhouse gas emissions in their communities.

analysis. (Solano County Draft General Plan EIR 2008). Additionally, there is no explanation as to why heavy truck emissions associated with diesel exhaust are not included in the moving sources category. (DEIR App. H). Without the complete inventory the EIR cannot adequately inform the public and decision-makers about the Project's impacts prior to approval of the project. Similarly, without a complete inventory and analysis of greenhouse gas emissions that will result from the project, there is simply no way that the EIR can then adequately discuss alternatives, avoidance, and mitigation measures to reduce those impacts. *See Pub. Res. Code § 21061.*

**Response H.9:**

The OPR analysis referenced by the commentor is not a "requirement." It was published as a preliminary draft of suggested methodology for GHG analysis. The analysis for construction emissions cannot be effectively forecast in a Program EIR. Development of the General Plan, and the construction activities associated with that development, will occur based on a variety of factors, and over a number of years. While build out of the General Plan would involve a defined increase in dwelling units and square feet of development, the number of years over which this would occur is not known since build out is expected to take several decades. Therefore, an annual "rate of construction" is not derivable. Furthermore, even if it were attainable, the real estate market in the region swings so drastically between boom and bust phases that any such linear mean rate of construction would essentially be meaningless, as it would either dramatically under- or overestimate emissions. Forecasting the unknown, as stated in CEQA §15144, does not provide useful empirical data and based on the above discussion, any analysis of construction GHG emissions in the Town is determined to be speculative in nature.

As relates to the inclusion of heavy duty trucks in the analysis, the commentor is incorrect. Heavy duty trucks are included in the analysis, as the moving source calculation is derived from the General Plan traffic study, which includes a full mix of vehicles. Please see Appendix F of the EIR for the particulars of the vehicle mix used in the analysis.

The analysis for the delivery of domestic water has been completed, and is provided below for the entire General Plan and Annexation area, and for each Annexation area separately.

As shown in Table 2, the General Plan and both Annexation areas will generate GHG emissions of 148,893 metric tons of CO<sub>2</sub> equivalents per year for domestic water distribution. Table III-14 in the EIR identifies that the Town's GHG emissions for electricity, natural gas and moving sources will total 3,226,995.08 metric tons per year. Total emissions, including those generated by the provision of domestic water, will be 3,375,888.53 metric tons per year. The delivery of domestic water represents an increase of 4.4% over the total emissions in Table III-14.

**Table 2**  
**GHG's from Energy Demand for onsite Water Use**  
**For the General Plan and Annexation Areas at Build Out**

Acre/feet per year <sup>1</sup>	Million gallons per year	Energy Factor for Water Use (kwh/MG)	Energy Demand for Water Use (kwh) <sup>2</sup>	
95,999.80	31,281.67	13,022.00	407,349,932.96	
<b>Electricity Use</b>		<b>mwh per year</b>	<b>407,350</b>	
Emissions	Emission Factor (Lbs/MWh) <sup>3</sup>	Projected Emissions (Lbs/Year)	Projected Emissions (Tons/Year)	Metric Tons per Year
Carbon Dioxide (CO2)	804.54	327,729,315	163,865	148,656
Methane (CH4)	0.0067	2,729	1.36	1.24
Nitrous Oxide (N2O)	0.0037	1,507	0.75	0.68
<b>Total</b>		<b>327,733,552</b>	<b>163,867</b>	<b>148,657</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>148,893</b>

1 Based on calculations for water demand as described in Section I-III: Water Resources.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

As shown in Table 3, Annexation 2008-001 will generate GHG emissions of 10,045 metric tons of CO2 equivalents per year for domestic water distribution. Table III-17 in the EIR identifies that the Annexation area's GHG emissions for electricity, natural gas and moving sources will total 375,691.58 metric tons per year. Total emissions, including those generated by the provision of domestic water, will be 385,736.33 metric tons per year. The delivery of domestic water represents an increase of 2.6% over the total emissions in Table III-17.

**Table 3**  
**GHG's from Energy Demand for onsite Water Use**  
**For Annexation 2008-001 at Build Out**

Acre/feet per year <sup>1</sup>	Million gallons per year	Energy Factor for Water Use (kwh/MG)	Energy Demand for Water Use (kwh) <sup>2</sup>	
6,476.40	2,110.34	13,022	27,480,902.10	
<b>Electricity Use</b>		<b>mwh per year</b>	<b>27,481</b>	
Emissions	Emission Factor (Lbs/MWh) <sup>3</sup>	Projected Emissions (Lbs/Year)	Projected Emissions (Tons/Year)	Metric Tons per Year
Carbon Dioxide (CO2)	804.54	22,109,485	11,055	10,029
Methane (CH4)	0.0067	184	0.09	0.08
Nitrous Oxide (N2O)	0.0037	102	0.05	0.05
<b>Total</b>		<b>22,109,771</b>	<b>11,055</b>	<b>10,029</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>10,045</b>

1 Based on calculations for water demand as described in Section I-III: Water Resources.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

As shown in Table 4, Annexation 2008-002 will generate GHG emissions of 2,019 metric tons of CO2 equivalents per year for domestic water distribution. Table III-19 in the EIR identifies that the Annexation area's GHG emissions for electricity, natural gas and moving sources will total 109,721.46 metric tons per year. Total emissions, including those generated by the provision of domestic water, will be 111,740.06 metric tons per year. The delivery of domestic water represents an increase of 1.8% over the total emissions in Table III-19.

**Table 4**  
**GHG's from Energy Demand for onsite Water Use**  
**For Annexation 2008-002 at Build Out**

Acre/feet per year <sup>1</sup>	Million gallons per year	Energy Factor for Water Use (kwh/MG)	Energy Demand for Water Use (kwh) <sup>2</sup>	
1,301.50	424.10	13,022	5,522,573.36	
<b>Electricity Use</b>		<b>mwh per year</b>	<b>5,523</b>	
<b>Emissions</b>	<b>Emission Factor (Lbs/MWh)<sup>3</sup></b>	<b>Projected Emissions (Lbs/Year)</b>	<b>Projected Emissions (Tons/Year)</b>	<b>Metric Tons per Year</b>
Carbon Dioxide (CO2)	804.54	4,443,131	2,222	2,015
Methane (CH4)	0.0067	37	0.02	0.02
Nitrous Oxide (N2O)	0.0037	20	0.01	0.01
<b>Total</b>		<b>4,443,189</b>	<b>2,222</b>	<b>2,015</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>2,019</b>

1 Based on calculations for water demand as described in Section I-III: Water Resources.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

The GHG emissions relating to the provision of domestic water associated with each of the alternatives are also provided in Appendix C to this response.

As shown above, the addition of GHG emissions will marginally increase overall GHG emissions at build out of the General Plan and the two Annexations. However, in each case this increase represents less than five percent of the total, and does not represent a significant change in the analysis provided in the EIR, or in the conclusions of the EIR. Therefore, recirculation of the EIR is not required.

**Comment H.10:** Finally, the greenhouse gas analysis fails to provide the Project’s information in a coherent manner that adequately informs decision makers and the public of environmental impacts. CEQA requires that information “be presented in a manner calculated to adequately inform the public and decision makers, who may not be previously familiar with the details of the project.” *Vineyard Area Citizens*, 40 Cal.4th at 442. The EIR fails to meet this threshold. The greenhouse gas analysis is broken into several pieces including the Proposed Project and related Annexations. It is unclear whether the analysis includes the total emissions associated with the general plan update and the Project annexation, or whether the greenhouse gas emissions have been improperly segmented into piecemeal parts. Also, it is unclear what assumptions are used in the greenhouse gas emissions to count towards the different project categories. For example, what is the assumed mileage per trip, how many trips are made per development type, what type of energy use is assumed for the project and is it appropriate to the high desert environment, and what type of natural gas usage is assumed per household or business residence (sic).

**Response H.10:** The commentor is incorrect. As clearly stated throughout the EIR, the analysis of impacts first provides the quantification of the General Plan build out, including the two annexations, and then provides the analysis for each of the Annexations separately. Therefore, the total impacts of the project have been analyzed and presented.

As regards the assumptions used, Appendix G and H provide all the assumptions used for the analysis. All electric and natural gas usage was calculated based on land use category, residential units or square footage of commercial or industrial space, as applicable. As stated above, moving emissions were calculated from the General Plan traffic study trip generation rates, which include calculations for residential, commercial, industrial and other uses.

**Comment H.11:** As the DEIR properly recognizes, the greenhouse gas emissions generated by the Project constitute a significant cumulative impact. (DEIR at III-29). However, the DEIR improperly limits the consideration of its determination of significance to whether “the project interferes with the goals of AB 32.” (DEIR at III-11). While the emission reduction targets set by AB 32 are important, they are only a first interim step toward a longer emission reduction pathway necessary to avoiding dangerous anthropogenic interference (DAI) with the climate system. While Project impacts remain significant, the significance criteria should be revised to recognize California’s long term emission targets set by Executive Order S-3-05 and consider the extent to which these reductions are consistent with the emission reduction pathway necessary to avoid DAI.

The relevant environmental objective with regard to a project's impact on global warming is stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference ("DAI") with the climate system. Framing the objective of a threshold of significance in the context of preventing DAI with the climate system is consistent with the policy of CEQA. As set forth in Public Resources Code Section 21000(d), "The capacity of the environment is limited, and it is the intent of the Legislature that the government of the state take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached." With regard to climate change, the prevention of DAI is the critical threshold to protect the health and safety of the people of California. The prevention of DAI with the climate is also the objective adopted by the international community. As set forth in the United Nations Framework Convention on Climate Change, to which the United States is a party: "The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."

... Thus, to properly address the question of the significance of Project impacts, the EIR should set forth the environmental objective of stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent DAI with the climate system, discuss California's emission reduction targets and the extent to which these targets are sufficient to meet avoid DAI. In this manner, the EIR will set forth the issues related to the significance of Project impacts in a manner that accurately informs decision makers and the public.

**Response H.11:**

Please see response #H.8. The level of impact was clearly determined based on the requirements of the executive order, that all jurisdictions reduce their GHG emission levels to 1990 levels by 2020. Since build out of the General Plan and annexations will result in the development of 32,332.8 acres of currently vacant lands within a total of 50,545.9 acres, the GHG emissions generated by build out of the project will exceed the GHG emissions of these lands in 1990. The finding is correctly described, and correctly made.

As regards the commentor's assertion that the level of significance should be framed around the prevention of dangerous anthropogenic interference, neither the Office of Planning and Research's draft guidelines, nor the Attorney General's published materials on CEQA analysis of GHG emissions suggest such a threshold. The commentor's dangerous anthropogenic interference standard is not a practical standard since no one knows what level of GHG emissions this would constitute, and any attempt by the Town to quantify such a threshold would be purely speculative. The threshold proposed by the Office of Planning and Research and the Attorney General, as well as those being developed by the Air Resources Board, the South Coast Air Quality Management District, and other

Air Quality Management Districts in California all tie thresholds for GHG to the executive order mandate to reduce GHG emissions to 1990 levels by 2020. It should be noted that if the Project would result in a significant and unavoidable impact with regard to 2020 emissions goal, it clearly will be unable to meet the 2050 emissions goal, barring technological achievements that otherwise reduce emissions. The uncertainty associated with long term technological or other changes makes a 2050 analysis speculative.

**Comment H.12:** Although the EIR asserts that the Project would interfere with the goals of AB 32, the EIR fails to provide any data on Project emissions as compared with 1990 levels. Accordingly, it is impossible to analyze the extent to which the Project exceeds AB 32 emission reduction mandates. The EIR must be revised to provide this data.

**Response H.12:** Please see response #H.8.

**Comment H.13:** Moreover, in a failure to adequately describe the Project, the EIR fails to note the year for which the Project envisions build-out. Should the General Plan update contemplate growth past 2020, its significance analysis should evaluate the extent to which the Project complies with Executive Order targets. While the trajectory of reductions under Executive Order S-3-05 has not been definitely established, the EIR should make an appropriate assumption, such as a linear decrease to 2050 to determine significance criteria for the undisclosed year of build-out. Thus, if the General Plan is intended to accommodate growth until 2030, than the EIR could compare Project emissions with emissions approximately 27% below 1990 levels.

**Response H.13:** See response #H.4. The analysis relies on and refers to the requirements of the executive order, and so states. Should build out occur after 2020, which is likely, the Town will be further required to reduce GHG emissions by 80%. Regardless of the build out year, the impact of development of vacant land which did not emit GHGs in 1990 and do not emit them now will be significant, and the findings of the EIR are correct. As stated previously, a significant and unavoidable impact with regard to meeting the 2020 emission goal would be unlikely to change with regard to 2050 emission targets, and the length of time associated with that target in the future prevents a conclusion that is free from speculation.

**Comment H.14:** The EIR further omits any discussion of regional Greenhouse Gas Emissions Reduction Plans such as that being implemented by the County of San Bernardino. (County of San Bernardino 2007).

**Response H.14:** The discussion of the County's plans is not material to the analysis provided in the EIR. Further, as stated in response #H.2., the General Plan includes policies and programs requiring the Town's participation in the County's Green Valley Initiative, which is a product of those plans. As stated in response H.2., the Town has committed to preparing a Climate Action Plan, which will have substantially

the same effect as the Greenhouse Gas Emissions Reduction Plan that was imposed on the County as a condition of its settlement with the Attorney General. While the Town would look towards the San Bernardino Greenhouse Gas Emissions Reduction Plan as an example when it prepares its own Climate Action Plan, the County's plan is not binding on the Town, and no further discussion is required in the EIR.

**Comment H.15:** The EIR's non-committal efforts to reduce the greenhouse gas emissions resulting from the Project are wholly inadequate. As an initial matter, the failure to provide data on existing emission levels and 1990 emissions makes it impossible to assess the extent to which the Project would deviate from state emission reduction targets. Second, purported "Climate Change and GHG Reduction Measures" are riddled with unenforceable, aspirational goals that only require the mitigation measures to "encourage", "promote" or "consider" reduction measures. (DEIR at III-39 to III-40). Furthermore, the Mitigation Monitoring/Reporting Program contains no enforcement or monitoring mechanisms for global warming. (DEIR at III-41). The Apple Valley General Plan does not even attempt to establish greenhouse gas emissions reduction targets and a plan to achieve those targets. The Town's Program 1.A.1, (Draft General Plan at III-77), to comply with future regulations does not meet the standards required by CEQA.

CEQA is clear that an "EIR must propose and describe mitigation measures that will minimize the significant environmental effects that the EIR has identified." *Napa Citizens for Honest Gov't v. Napa County Bd. of Supervisors*, 91 Cal.App.4th 342, 360 (2001). CEQA requires that agencies "mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so." Pub. Res. Code § 21002.1(b). Mitigation of a project's significant impacts is one of the "most important" functions of CEQA. *Sierra Club v. Gilroy City Council*, 222 Cal.App.3d 30, 41 (1990). Therefore, it is the "policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures which will avoid or substantially lessen the significant environmental effects of such projects." Pub. Res. Code § 21002...

CEQA's minimal standards for enforceable and specific mitigation measures apply with equal force to the treatment of GHGs in general plans....

To mitigate the Project's greenhouse gas impacts, the Attorney General recommends the development of a Climate Action Plan that would "include the following elements: an emissions inventory (to assist in developing appropriate emission targets and mitigation measures); emission targets that apply reasonable intervals through the life on the plan; enforceable GHG control measures; monitoring and reporting (to ensure that targets are met); and mechanisms to allow for the revision of the plan, if necessary, to stay on target." (California Attorney General 2009 at 6). Importantly, the Climate Action Plan should be prepared "*at the same time* as [the] general plan update and EIR." (Id. (emphasis added)). Were the Climate Action Plan to be developed after general plan approval, land uses would be locked in that

could frustrate attainment of emission reduction objectives. The time to consider sustainable, low-carbon growth is when the General Plan is developed, not after.

**Response H.15:**

See response #H.2. and #H.13., above. The Town will prepare a climate action plan as a mitigation measure to assure compliance with GHG targets, and will complete it within one year. This is a reasonable timeframe, and will not impact the Town's ability to make changes to the land use map, should they be necessary. Pursuant to Mitigation #25, the Town is required to implement emission control measures such as to reduce emissions by 25 percent as compared to a "business-as-usual" scenario. This mitigation is enforceable and complies with the requirements for programmatic mitigation under CEQA.

As regards the other mitigation measures included in the EIR, although some are not mandates, they include the following requirements:

1. new project include mass transit in their plans; traffic monitoring (also see the Traffic and Circulation section) to reduce congestion;
2. regulation of commercial vehicle idling times;
3. establishing a program to retrofit or replace Town-owned electrical fixtures and appliances;
4. utilizing energy efficient design in new schools;
5. utilizing land fill gas for energy; and
6. establishing an incentive program for the retrofitting of commercial, industrial and residential development.

Also as previously stated, the General Plan establishes a new Mixed Use designation on 383.2 acres, which requires that both commercial and residential land uses be developed on lands with this designation. This represents mitigation by design, and was developed to reduce vehicle miles traveled and encourage the use of public transit.

Finally, mandating the use of LEED principles, or requiring that homes be built using green building principles, is promoted both in the General Plan and in the EIR because mandating such development is not feasible. The development of new projects may not be feasible if such requirements are imposed upon them, since they would add significant expense to the cost of developing in an area where the market generally can only bear lower prices, at least in relation to the rest of Southern California. The net result of placing such a requirement on development in Apple Valley would likely be to place the Town at an economic disadvantage in comparison to its neighbors at a time in which the general economic condition is already in subdued and is likely to remain so for the foreseeable future.. The development of LEED or green building projects will continue to increase, and it will eventually become a more commonplace design practice, but it currently imposes standards on construction which cannot be met by all projects, and therefore does not constitute feasible mitigation.

The measures included in the EIR, in conjunction with the climate action plan added in response #H.2., will assure that GHG emissions are reduced to meet targets established in the executive order.

**Comment H.16:** The General Plan and EIR should address the significant unmitigable impacts to greenhouse gas emissions from the Lead Agency’s waste practices. Decomposing organic waste emits carbon dioxide and methane, two major greenhouse gases. In fact, methane is the most important of the non-CO<sub>2</sub> pollutants, with a global warming potential 21 times greater than carbon dioxide, and an atmospheric lifetime of 12 years. (Forster and Ramaswamy 2007). Methane constitutes approximately 20% of the anthropogenic greenhouse effect globally, the largest contribution of the non-CO<sub>2</sub> gases. Municipal solid waste landfills are the largest source of human-related methane emissions in the United States, accounting for about 25 percent of these emissions in 2004. Thus, waste reduction and recycling can significantly reduce and eliminate global warming pollution by reducing landfill methane emissions. Additionally, reducing waste and reusing materials can also reduce greenhouse gas emissions by reducing transportation-related emissions and add to overall energy savings by reusing items that would otherwise be manufactured. (ICLEI, U.S. Mayor’s Climate Protection Agreement Climate Action Handbook at 16).

**Response H.16:** The EIR address waste reduction in Section III-M. As stated in the EIR, the Town is a member of the Zero Waste Communities of San Bernardino County. Also as stated in that section, the Town currently diverts 50% of its waste stream to recycling. The mitigation measures included in that section include surpassing mandated recycling limits; and requiring that landscaping waste be composted in new projects. These mitigation measures, and the Town’s participation in regional organizations will assure that solid waste generation is reduced, and that impacts associated with solid waste and GHGs are less than significant.

**Comment H.17:** Global warming will affect California’s climate, resulting in such impacts as increased temperatures and wildfires, and a reduction in snowpack and precipitation levels and water availability. These factors will impact development under the General Plan Update, as well as exacerbate its own environmental impacts. Therefore, these factors must be considered in the EIR. *See* Guidelines § 15126.2(a) (an EIR “shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected.”) The EIR must use its best efforts to find out and disclose all it reasonably can about the impacts of climate change on the environment and—most importantly—use that information to form an educated opinion about how to plan and adapt for the impacts of climate change. (California Attorney General 2009).

**Response H.17:** The EIR analyzes the General Plan’s impacts on its environment. Water resources impacts are addressed in Section III-I. In this section, the water demand generated by build out of the General Plan is quantified, and the supplies available are described. As described in that section, the water sources identified include not only local

supplies, but regionally available groundwater, surface water and imported water. The analysis is based on the Urban Water Management Plans prepared by the area's primary water providers, which is the most current and accurate information available on the subject. The analysis shows that under these Plans, sufficient water is available to serve development and growth within the General Plan area through 2025. In addition, the Town has implemented a number of conservation programs through the General Plan, and will continue its involvement in the Alliance for Water Awareness and Conservation (AWAC), which has set goals to reduce regional water use by 10% gross per capita by 2010 and by 15% gross per capita by 2015.

Background information on the region's water supply, and State Water Project allocations and status, are provided in Appendix B (Regional Water Supply) of this document. As described in Appendix B:

Some of the water on which the local water companies will rely in the future includes State Water Project "Table A" water. The California Department of Water Resources ("DWR") oversees the operation of the State Water Project. DWR has published a "SWP Delivery Reliability Report" every two years. The most recent edition was the 2007 DWR Reliability Report, the final version of which was released in August 2008. (The Final 2007 DWR Reliability Report is incorporated herein by reference.) The analyses provided in the DWR Reliability Report are based upon 82 years of historical records for rainfall and runoff that have been adjusted to reflect the current and future levels of development in the source areas by analyzing land use patterns and projecting future land and water uses. Of key importance, the studies in the DWR Reliability Report for current (2007) through future (2027) conditions assume and account for current facility and institutional limitations.<sup>2</sup> In addition, DWR's long-term SWP delivery reliability analyses incorporate assumptions to account for potential supply shortfalls related to global climate change factors. In fact, the DWR Reliability Report accounts for potential effects of future climate change on SWP deliveries through the year 2050 by examining four climate change scenarios: weak temperature warming and weak precipitation increase in California under model PCM; modest warming and modest drying under model PCM; modest warming and modest drying under model GFDL v. 2.0; and weak temperature warming and weak precipitation increase in California under model GFDL v. 2.0. Thus, the effects of long-term global climate change have been extensively analyzed and accounted for by DWR's 2007 Final SWP Delivery Reliability Report. The MWA and the local water purveyors use the DWR water reliability report in their long term planning documents, therefore carrying forward the global warming analysis, and including it in their plans.

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<sup>2</sup> These limitations include water quality issues, fishery protections, export curtailments and other requirements under State Board Water Rights Decision 1641, the Vernalis Adaptive Management Plan (VAMP) as described in the 2004 Operations Criteria and Plan (OCAP), and recent court-ordered in-Delta flow targets in Old and Middle Rivers to protect delta smelt (such as *Natural Resources Defense Council v. Kempthorne*), as well as potential effects of Delta levee failures and other seismic or flood events

As relates to wildfires, the Initial Study prepared for the proposed General Plan and Annexations determined that wildfire hazards will not be impacted by development of the General Plan or Annexations. The Town occurs in the Mojave Desert, and is not located in or near areas subject to wildfires. Vegetation within the area is sparse, and does not pose a hazard for wildfires. While global warming may expose the Town to hotter temperatures and possibly result in more dry, hot conditions, the relative lack of combustible fuel in the form of dead vegetation indicates that this impact would be less than significant.

**Comment H.18:** Californians experience the worst air quality in the nation, with annual health and economic impacts estimated at 8,800 deaths (3,000–15,000 probable range) and \$71 billion (\$36–\$136 billion) per year. (California Climate Change Center 2006c). Ozone and particulate matter (PM) are the pollutants of greatest concern (maximum levels are about double California’s air quality standards) and the current control programs for motor vehicles and industrial sources cost about \$10 billion per year. Higher temperatures are expected to increase the frequency, duration and intensity of conditions conducive to air pollution formation. (California Climate Change Center 2006c). As such, these impacts must be considered in the environmental analysis.

**Response H.18:** The EIR conducted its analysis of vehicle emissions consistent with the requirements and protocols established by the South Coast Air Quality Management District and the Mojave Desert Air Quality Management District. The analysis is comprehensive and complete, and meets those requirements. The assumptions provided by the District include temperature variables, which were included in the model prepared for the EIR. The analysis meets the requirements of CEQA, and does not need to be revised. While future climate change would increase mean temperatures, whether this would result in dramatically increased frequencies of inversion layer formation in the Mojave Air Basin is speculative and unknown. If this occurs, the result would be an increase in the amount of days in the Basin that exceed ambient air quality standards for ozone and particulate matter. Further conclusions cannot be determined with any certainty, however, and such a situation would not change the conclusion of the EIR analysis nor the mitigation measures included in the EIR.

**Comment H.19:** Climate change is a leading threat to California and the world’s biological diversity. The three categories of impacts to biological resources from global warming are: (1) earlier timing of spring events, (2) extension of species’ range poleward or upward in elevation, and (3) a decline in species adapted to cold temperatures and an increase in species adapted to warm temperatures (Parmesan and Galbraith 2004). While theoretically some species can adapt by shifting their ranges in response to climate change, species in many areas today, in contrast to migration patterns in response to paleoclimatic warming, must move through a landscape that human activity has rendered increasingly fragmented and inhospitable. When species cannot shift their ranges northward or to increased elevations in response to climate warming, they will become extinct. (Parmesan and Galbraith 2004). Therefore, the least mobile species will be the first to disappear. To the extent reasonably

foreseeable the EIR should discuss the how (sic) development proposed under the Project would impinge upon the range of species at risk or exacerbate impacts already been felt due to global warming.

**Response H.19:** The General Plan’s impacts relating to biological resources is contained in Section III-D. The analysis was undertaken based upon a Biological Resource Survey conducted by a qualified biologist, which is included in Appendix B of the EIR. The study does not include an analysis of the impacts to native species associated with global warming, because although the effects of global warming may, over the long term, have an impact on species in the Apple Valley region, should those species not be able to adapt over a period of generations, quantifiable and accurate data is not available, and the EIR would be engaging in speculation if it were to attempt such analysis. As stated by the commentor, the analysis should be included if “reasonably foreseeable.” Including speculation in the EIR would be inaccurate and inappropriate.

**Comment H.20:** The Project area contains a high number of rare, sensitive, threatened, or endangered species. Over 25 special status species have been reported within the Project Area. (DEIR at III-47 to III-50, DEIR App. B, p. 30-33). The CEQA Guidelines require a mandatory finding of significance where the project has the potential to, inter alia, “substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare, or threatened species” or has cumulatively considerable environmental effects. 14 CCR § 15065. Despite the recognition of the Project’s impacts to the environment and sensitive communities the EIR impermissibly downplays the significance of the Project’s impacts, and thus avoids the substantive requirement to adopt feasible mitigation measures and alternatives. Pub. Res. Code § 21002...

The “General Plan study area encompasses approximately 78 square miles.” (DEIR at I-3). Over 90% of that area has been planned for development of residential, commercial, industrial, or public use. (DEIR at I-17). Only 6.5% would remain in Open Space that could potentially provide habitat for sensitive species. (DEIR at I-17). This is exactly the type of permanent disturbance from urban development that leads to a significant impact. For example, development of over 90% of the Project area will have “a substantial adverse effect” on the following: candidate, sensitive, and special status species; wetlands, riparian habitat, and other sensitive natural communities; the movement of wildlife; and wildlife nursery sites. CEQA Guidelines Appendix G.

Astoundingly, the DEIR states that the widespread destruction of wildlife and habitat will be less than significant after mitigation. (DEIR at III-62). This conclusion cannot be supported by substantial evidence because the DEIR and Biological Resources Report depict exactly the type of action contemplated by the

Project as direct and indirect significant impacts to sensitive wildlife and sensitive habitats.

**Response H.20:** The analysis in the EIR relating to biological resources is comprehensive, and correctly analyzes the species located within the area, their habitat, and the impacts associated with build out of the General Plan and Annexation areas. The EIR also correctly identifies special status species, and their ranges within the area. The EIR further describes the regionally prepared West Mojave Habitat Conservation Plan, which will regulate state and federal lands which occur within the Town and in its sphere of influence.

The EIR describes that Creosote Bush Scrub is the predominant plant community in the Plan area. The EIR further describes that although over 25 special status species are identified in databases as occurring in the Plan area, those that have been identified in the Plan area occur in specialized communities, particularly the plant communities adjacent to the Mojave River. Areas adjacent to the Mojave River are currently designated Open Space, and will continue to be so designated in the General Plan. The habitat for the sensitive species occurring in this area, therefore, will not be impacted by development of General Plan land uses.

The EIR also describes the Town's Native Plant Ordinance, which requires the protection of designated native plant species when development is proposed. The Ordinance assures the preservation of locally important native plants in the built environment, which enhances its potential for native fauna to forage, nest or occupy areas subject to development.

The EIR includes mitigation measures which require that all development proposed in habitat areas for sensitive species be studied prior to development. The species which require study are subject to regulations and protocols established by the California Department of Fish and Game and/or the US Fish and Wildlife Service. These regulations and protocols include the method of study, the allowable mitigation measures, if any, the avoidance of impact, and the prohibition against taking certain species, particularly the Desert tortoise and the Mojave Ground Squirrel. All the protocols are published, by either the Department of Fish and Game, or the US Fish and Wildlife Service. The protocols currently applicable to the Town, including those for Burrowing Owl, Least Bell's Vireo, Mojave ground squirrel, Desert tortoise, and plant inventories, are appended to this Response to Comments as Appendix A. In addition, the federal Migratory Bird Treaty Act, which mitigation measure #4 requires be applied to all new projects, stipulates specific standards for survey and avoidance of nest for a broad range of birds and raptors, including the Prairie Falcon. These requirements of law will assure that impacts associated with biological resources are reduced to less than significant levels.

The EIR and General Plan policies and programs of the Biological Resources Element (General Plan pages III-53 through III-55) were also designed to protect

sensitive species in accordance with law. When taken together, as is appropriate and correct in this case, the General Plan and EIR assure that the impacts which will occur as a result of General Plan build out will be reduced to less than significant levels. Consequently, the mandatory findings of significance cited by the commentor do not apply, since any project proposed under the General Plan would be required to mitigate its impacts.

**Comment H.21:** The assertion that these significant impacts can be mitigated becomes more astounding upon review of the unenforceable and illusory mitigation measures themselves. The Town cannot simply defer the formulation of mitigation measures to a later date that potentially will not occur. The Town must commit to eventually devising mitigation measures and articulate specific performance criteria for implementation of those mitigation measures. *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670). Unfortunately the DEIR proposes to defer the development of mitigation and rely upon plans that have an uncertain future or do not apply to the Project Area.

The DEIR relies upon the West Mojave Habitat Conservation Plan and Apple Valley Multiple Species Habitat Conservation Plan to provide for habitat protection and connectivity. Neither of these plans apply to the private land proposed for development in the Project Area. The West Mojave Plan applies only to federally owned lands and is not applicable on the privately owned land in the Project area. (DEIR at III-58). The private lands counterpart has not been completed and there is no assurance that it will be completed to mitigate the impacts of private land development in the Project area. Similarly, the Apple Valley Habitat Conservation Plan is in preparation and does not apply to the Project Area. There are no assurances, mitigation measures, firm commitments, or deadlines to assure that these plans will ever be in place to mitigate the impacts to biological resources within the project area.

Mitigation measures must be made fully enforceable “through permit conditions, agreements, or other measures.” Pub. Resources Code, § 21081.6(b). When mitigation measures are incorporated into a plan, the agency must take steps to ensure that they will actually be implemented as a condition of later development approved under the plan, “not merely adopted and then neglected or disregarded.” *Federation of Hillside Canyon & Canyon Ass’ns v. City of Los Angeles*, 83 Cal.App.4th 1252 (2000). Unfortunately, the mitigation measures proposed in the EIR lack enforceability or performance criteria. For example, the DEIR calls for coordination and consultation with agencies, consideration of open space “as appropriate”, conserve groundwater “as much as feasible”, promotion of native vegetation, and surveys. It fails to prevent the type of habitat destruction that can lead to significant biological impacts.

**Response H.21:** The mitigation measures in the EIR require the preparation of biological resource surveys for all future development to be located in areas where sensitive species may occur. These studies will determine site specific protection or avoidance

measures applicable to each site. The performance standards associated with each species are a matter of policy, with either the California Department of Fish and Game or the US Fish and Wildlife Service having established standards and protocols. For example, the Department has established strict protocols relating to the disturbance of burrowing owls. Any biological resource analysis prepared in the future which identifies burrowing owls on the property will be required to adhere to these protocols, or to those in place at the time the study is prepared, should the Department change its protocols. All the protocols are published, by either the Department of Fish and Game, or the US Fish and Wildlife Service. The protocols currently applicable to the Town, including those for Burrowing Owl, Least Bell's Vireo, Mojave ground squirrel, Desert tortoise, and plant inventories, are appended to this Response to Comments as Appendix A. In addition, the federal Migratory Bird Treaty Act, which mitigation measure #4 requires be applied to all new projects, stipulates specific standards for survey and avoidance of nest for a broad range of birds and raptors, including the Prairie Falcon. The protocols include avoidance requirements; relocation standards and procedures; acquisition of mitigation lands at established ratios; payment of fees; securing Take Permits; and/or other means of conservation, as applicable to each species. These and all standards established by the Town, the Department and the Service will be imposed on all future development projects. The requirement imposed in the EIR provide the guarantee that future development will address and mitigate the impacts associated with biological resources on each site. The requirement for further analysis and identification of mitigation is consistent with CEQA, contrary to the commentor's assertion.

Further, the commentor's assertion that the mitigation measures lack enforceability is incorrect. The mitigation measures identified in the comment are in addition to those requiring assessment of vacant lands, and do not replace those specific mitigation measures, such as Mitigation #3, 4, 5, and 6.

In order to provide greater clarity as to the implementation of the mitigation measures, the following amendments are hereby incorporated into the EIR.

- 1.(a) The Town shall aid the County of San Bernardino and other participating federal, state, and local agencies in the preparation of a private lands counterpart to the West Mojave Habitat Conservation Plan.
- (b) The Town shall participate in the provision of biological resources data and/or surveys relevant to open space areas within its jurisdiction and sphere of influence that may have biological resources value, and shall participate in the preparation of a Habitat Conservation Plan that addresses the needs of the Town with regard to regional biological resources.
- (c) If a Habitat Conservation Plan is formulated by the participating federal, state, and local agencies that allows for the conservation of biological resources, the Town shall implement it.
2. The Town shall complete the preparation of the Apple Valley MSHCP, in conjunction with the California Department of Fish & Game ("CDFG") and

- the U.S. Fish and Wildlife Service (“USFWS”). Upon the completion of the MSHCP to the satisfaction of all three parties, the Town shall proceed to implement it according to its terms and the authorization for take of special status species granted by CDFG and USFWS.
3.
    - (a) The Town shall require that biological resources evaluations be performed prior to development actions, including site-specific surveys utilizing specified survey parameters as required for all special status species in identified habitat areas, and especially within or adjacent to linkage corridors or special survey areas and potential jurisdictional areas.
    - (b) As required by CEQA, if biological resources are present that would be significantly impacted by a project, mitigation shall be imposed on the project to reduce the impact to a level of less than significant, to the extent feasible.
    - (c) At the General Plan-level, it is not practical to formulate or list the entire range of specific mitigation measures that can be required for individual projects. Therefore, this identification can only be done at the project-level, based on the Town’s judgment of the individual circumstances of the project before it as a lead agency under CEQA. However, it can be generally stated that the Town shall require mitigation pursuant to species- or resource-specific protocols established by CDFG, USFWS, and/or the U.S. Army Corps of Engineers. The Town can also require, as appropriate, transplanted or seed collection programs, trapping and removal of wildlife, preservation of offsite habitat, recreation of habitat, or participation in a mitigation bank.
  4. The Town shall ensure that land actions require site-specific nest surveys for the presence of migratory birds in accordance with established protocols and requirements of the Migratory Bird Treaty Act, prior to site disturbance. If protected migratory birds and/or raptors are found to be nesting onsite, construction activities will not be allowed within a radius of the nest determined by a qualified biologist, until the young have fledged and left the nest.
  5. Biological surveys for Burrowing Owls and Prairie Falcons shall be performed for any site proposed for development wherever sufficient open space and suitable habitat is present. Coordination with California Department of Fish and Game is required when survey results are positive.
  6. Biological surveys for bats shall be performed prior to disturbance on projects involving reconstruction of bridges, demolition of abandoned buildings, and/or have the potential to contain old mines, in order to determine if significant roosts are present. If roosts are present, projects shall comply with applicable protocols of the Department of Fish and Game or US Wildlife Service, and the recommendations of qualified biologists.
  7. The Town shall utilize land use designations that provide for Open Space in order to protect viable habitat within the Town. On lands not already designated as Open Space where viable habitat occurs, such lands shall be considered for an open space land use designation as appropriate. Open Space lands shall be managed as warranted for the preservation and

- protection of their biological and natural resources.
8. The Town shall retain the Open Space designation along the Mojave River to ensure that important riparian habitat and linkages are conserved.
  9. To conserve the natural state of existing hillsides and slopes, land greater than 15% slope shall not be built upon and shall be used as open space.
  10. Open space land shall be protected in perpetuity.
  11. Development proposals adjacent to open space lands shall provide buffers and linkages to maintain natural resource values.
  12. Groundwater shall be conserved to reduce overdraft and retain or increase the depth of the water table along the Mojave River, which will help to preserve and restore plant communities within and adjacent to the waterway.
  13. Development projects proposing to alter or impact major drainages (blueline streams) including ephemeral streams, shall consult with the appropriate state and/or federal regulatory agency. Such alteration may require permits from the U.S. Army Corps of Engineers, Lahonton Regional Water Quality Control Board, and/or the California Department of Fish and Game. Compliance with such permits will ensure that impacts to riparian habitat are mitigated by either restoration or replacement, and that impacts to water quality are avoided by compliance with Section 401 of the Clean Water Act requirements.
  14. The Town shall promote the use of native vegetation for landscaping to enhance and create viable habitat for local species. The Town shall periodically update a comprehensive list of plant materials that are complementary with the local environment. This list shall include native and non-native, drought tolerant trees, shrubs and groundcover. The Town shall also maintain a list of prohibited plant materials. Both lists shall be made available to developers and residents. The use of native vegetation in project submissions shall be given preference over water-intensive landscaping during project design review.
  15. The Town shall require developers to recover, preserve, or utilize native vegetation within their project or shall require that viable vegetation is transplanted to other appropriate sites in conformance with its Native Plant Ordinance. The Town shall make information on salvaging and transplanting native species available to developers.
  16. The Town shall provide and maintain a comprehensive interconnected recreational trail system suitable for bicycles, equestrians and/or pedestrians. This will encourage the reduction of vehicle miles traveled and also provide corridors for animal migration between habitat areas. The Town shall encourage multiple use corridors through the drainage channels and utility easements, thereby encouraging the connectivity of natural communities.
  17. The Town shall continue to promote biodiversity by protecting natural communities with high habitat value, protecting habitat linkages to prevent further fragmentation, and encouraging an appreciation for the natural environment and bio resources.

With regard to the West Mojave HCP, the EIR acknowledges that the Plan will apply only to public lands, and does not rely upon it for private lands.

With regard to the Apple Valley HCP, the commentor is incorrect. The Apple Valley HCP is being prepared for all lands within the Town limits, and will include policies and programs applicable throughout the community. The HCP has been under way for over one year, including both the Town limits and its entire sphere of influence. The project has already generated interim policies and programs which the Town is implementing. These are included as Appendix D. As described in these interim measures, the areas of concern have been identified, and the Town is implementing policies and programs which assure that development on all projects on lands within its corporate limits assess and mitigate potential impacts to sensitive species, including avoidance requirements for projects within the Mojave River areas, which as described above and in the EIR contain the most sensitive habitats and species within the planning area.

**Comment H.22:** The Mitigation Monitoring/Reporting Program also fails to provide for enforceable mitigation or performance criteria that will reduce or compensate for the loss of habitat caused by the plan. For example, the mitigation measures only call for mitigation measures “as necessary”, the formulation of future mitigation, and assurances that future permits are received. (DEIR III-67). This can hardly compensate for the cumulative destruction, loss, and fragmentation of habitat contemplated under the Project.

**Response H.22:** The Mitigation Monitoring Program (MMP) is, as required, an action plan for the implementation of the mitigation measures. The MMP is not, and should not be, a set of additional mitigation measures. The MMP accurately identifies time periods and responsible parties who are required to assure that the mitigation measures are implemented. Further, the MMP identifies specific actions which must be taken prior to the issuance of specific permits. The reference to “as necessary” is only an indication that the identity of the specific mitigation measures needed from project to project will be different due to the unique characteristics of each project site. The mitigation proposed by the Town are enforceable mitigation measures laying out the framework for the study and formulation of mitigation for future projects, and are therefore in compliance with CEQA.

**Comment H.23:** Moreover, the DEIR ignores the recommended mitigation submitted with the Biological Resources Report that conservation emphasis open spaces areas should be developed.

Formally recognized open space areas should consist of large, undisturbed native plant community properties containing special status species’ habitat and representative Apple Valley biodiversity.

DEIR App. B, p.81

The Falchion Boulderlands locality located slightly northeast of the Mojave River Narrows also provides extensive habitat for a variety of wildlife and acts as a “steppingstone” linkage habitat to northern Apple Valley wildlife habitats. Public lands in the immediate Bell Mountain vicinity, as well as on the north slope of the Turtle Mountains (Map 13), similarly act as a linkage habitat for many wildlife species travelling through the Planning Area. Both areas provide diverse habitats, in addition to a habitat linkage, and consequently are also likely candidate localities for conservation-emphasis open space protection (Map 14).

DEIR App. B, p.83. A map depicting these areas is included in the DEIR at “Habitat Areas Requiring Additional Biological Study”, yet no additional study or open space protection is proposed. (DEIR at 56).

**Response H.23:**

The commentor is incorrect. The lands identified in Map 14 of the biological resource survey, and reproduced in the EIR as Exhibit III-1, correctly map areas where sensitive habitats occur. These lands are also co-terminus with existing Open Space designated lands, including the Mojave River, Bell Mountain and the Falshion boulderfields. The land use map of the General Plan identifies over 3,000 acres of Open Space land already protected within the Town. Also see mitigation measure #7, providing for the addition of Open Space lands as habitat values are identified. Studies prepared for future projects, and the Apple Valley HCP, will further identify lands which require protection due to their habitat values. As these lands are identified, these lands will be designated for Open Space, thereby adding to the Town’s open space resources beyond the 3,000 acres already designated.

Finally, the commentor’s assertion that “no additional study or open space protection is proposed” is incorrect. The General Plan and the EIR both require biological resource analysis, and the protection of open space lands both existing and identified in the future. Please also see mitigation measure #7, response #H.21., above, and General Plan pages III-53 through III-55. The Town has committed, as a matter of policy, to identifying important areas for conservation, both within the context of the Town’s HCP, and across the entire community.

**Comment H.24:**

Specific, feasible, and enforceable mitigation measures for biological impacts and the loss and disruption of essential habitat due to edge effects are available but were not incorporated in the DEIR. They include, but are not limited to, the following:

- minimum 300-foot setbacks between developed area, including roads, and sensitive habitat areas
- conditions prohibiting non-leashed outdoor pets (including cats)
- requiring, where appropriate, walls or fences that will inhibit domestic animals from harassing and harming native species including “cat-proof” fencing to prevent feral and house cats from accessing sensitive habitat
- capture programs to control feral cats

- techniques to control non-native invasive species
- prohibiting the use of pesticides and other toxic chemicals around homes and golf courses
- requiring, not simply recommending, the use of native vegetation in landscaping
- providing public education regarding rare, threatened and endangered species and how local communities can help protect them
- requiring gates to restrict access to lands set aside for habitat preservation

**Response H.24:**

Please see responses #H.21. and #H.23., above. It is inappropriate to institute mitigation as specific as proposed by the commentor at the program-level, especially for a project such as the General Plan, which will build out over the course of several decades. In addition, insofar as the mitigation proposed by the Town will be sufficient to mitigate impacts to a less than significant level, CEQA does not impose a duty to adopt any further mitigation measures, including those suggested by the commentor. The following, however, is a point-by-point discussion of the suggested mitigation measures:

- minimum 300-foot setbacks between developed area, including roads, and sensitive habitat areas: the establishment of setbacks is premature and ineffective at the Program EIR level. It may be necessary to have greater or lesser setbacks, based on site-specific analysis.
- conditions prohibiting non-leashed outdoor pets (including cats): the exclusion of non-leashed outdoor pets is warranted in specific areas, but would be inappropriate Town-wide. It should be noted that Municipal Code section 15.01.070 already requires that dogs be leashed or otherwise confined when outside the property of their owner. Imposing such a mitigation measure on a Town-wide basis is not warranted, given the lack of site-specific conditions before the Town that would make such a requirement necessary for environmental protection.
- requiring, where appropriate, walls or fences that will inhibit domestic animals from harassing and harming native species including “cat-proof” fencing to prevent feral and house cats from accessing sensitive habitat:
- the provision of gates and/or fencing to restrict access to open space areas is site-specific, and should be considered on a project-specific basis, and through the implementation of the Apple Valley HCP. For these reasons, requiring walls or fences at the General Plan level is not an effective means of mitigating impacts; rather, such actions will be recommended at the project-level, where appropriate. It should also be noted that the fencing requirements proposed by the commentor contradict the comments made regarding wildlife corridors (see response #H.25., below), which require connectivity to be effective.
- capture programs to control feral cats: A capture program for the control of feral cats is not warranted at this time, given the programmatic scope of the General Plan. Such a measure would be appropriate for a project-specific CEQA document for a project involving development at the urban/open space

interface, and only in conjunction with confirmed observation and analysis that feral cats are a problem for the survival of significant biological resources. In general, it should also be noted that County animal control services can be contacted to remove feral cats. The establishment of a more intense program, as suggested by the commentor, is not necessary at the present time but, as mentioned above, may be selected as one of the mitigation measures formulated pursuant to Mitigation #3.

- techniques to control non-native invasive species: The use of native vegetation is, as described in the General Plan and EIR, required by the Town through its Native Plant Ordinance, which sets strict requirements for the preservation of indigenous species. Further, the General Plan includes policies for the development of a recommended and prohibited plant palette, which will be implemented through a public outreach program. Finally, mitigation measure #12 in the EIR (page III-67) specifically requires the use of native vegetation within development projects, and mitigation measure #11 requires the promulgation of a prohibited plant list.
- prohibiting the use of pesticides and other toxic chemicals around homes and golf courses: The suggested mitigation measure is excessive, as “toxic chemicals” can be construed to include household cleaners, fertilizer, swimming pool chlorine, and other common substances. The ban of the use of pesticides is not legally feasible, as the state of California has preempted local regulation on the sale and use of pesticides.
- requiring, not simply recommending, the use of native vegetation in landscaping: The use of native vegetation is, as described in the General Plan and EIR, required by the Town through its Native Plant Ordinance, which sets strict requirements for the preservation of indigenous species.
- providing public education regarding rare, threatened and endangered species and how local communities can help protect them: The provision of public education regarding special status species would be of uncertain effectiveness, and would be much less effective than the implementation of the framework of site-specific analysis and mitigation formulation proposed in the EIR. Consequently, at the present time, an educational campaign is not appropriate.
- requiring gates to restrict access to lands set aside for habitat preservation: The provision of gates to restrict access to open space areas is a site-specific issue, and should be addressed in connection with project-specific biological resource impact review and mitigation, as well as through the preparation and implementation of the Apple Valley MSHCP. For these reasons, requiring gated access via the General Plan is not an effective means of mitigating impacts; rather, such actions will be recommended at the project-level, when the situation makes such mitigation appropriate.

**Comment H.25:** The DEIR also fails to adequately analyze and quantify the impacts to wildlife corridors in the project area. Habitat corridors are most effective when adjacent uses are compatible with suitable wildlife habitat. (Beier and Loe 1992; Perault and Lomolino 2000). Urbanization has continually proven to be an incompatible use for wildlife habitat. Lower intensity use such as timber recreation or

agriculture would be a more compatible use. The project will result in a highly urbanized use that will significantly impact the wildlife habitat potential of the site.

Intrusion by development into wildlife corridors impedes the migration of species within the corridor and increases the adverse “edge effects” of fragmented habitat. (Bond 2003). The project’s elimination of wildlife habitat, development over the next 25 years, and increase in traffic flow and population is incompatible with wildlife habitat. The project’s encroachment into Wildlife Dispersion Corridors will create a significant adverse effect upon wildlife migration within the area. These biological effects must be fully analyzed in the EIR to determine the alternative that best suits the needs of the community and existing biological constraints.

**Response H.25:**

Wildlife corridors are addressed in the General Plan Biological Resources Element (page III-50), and in the EIR on page III-58. Existing wildlife corridors exists in the Town’s primary sensitive habitat, located along the Mojave River, and this area is currently, and will continue to be designated as Open Space. The EIR requires the preservation of this area as Open Space (mitigation measure #8., page III-66). Other wildlife corridors depicted in the General Plan include the Turtle and Black Mountains (north of the Planning Area), Fairview Mountain to the northeast, the Granite Mountains to the southeast, and the Juniper Flat foothills to the south. (See General Plan Exhibit III-4.)

As stated on page III-62 of the EIR, “the most severe impacts to biological resources are those that result from [among others] fragmentation....” To address this, “it is crucial that land use planning include provisions for an interconnected network with established wildlife corridors and linkages.” While the location of wildlife corridors are known, it is not possible to quantify impacts on these corridors at the present time, as the precise amount of land to be retained or consumed by development will depend upon site-specific examinations of project sites and subsequent determinations as to the appropriate means of protecting onsite wildlife corridors, as per the biological resources survey required by Mitigation #3. Furthermore, it should be noted that Mitigations #6 and #7 also provide for the retention of open space that would help preserve wildlife movement.

With regard to edge effects due to encroachment into “Wildlife Dispersion Corridors,” such impacts occur along the Mojave River, which is currently, and will continue to be preserved as Open Space. Land uses proposed adjacent to the river are very low intensity single family uses on lots of at least one-half acre or more. These areas have already been developed, and the river has successfully continued to provide habitat for a range of species. Thus, implementation of the new General Plan would not result in a *new* impact on the Mojave River corridor. With regard to the other washes, future development could result in edge effects, however, such impacts would be mitigated through the appropriate use of buffers,

setbacks, fencing, and other such actions as delineated in a project's biological resources evaluation. Also, various programs and policies of the General Plan are proposed to protect linkages and movement corridors, thereby ensuring that programmatic impacts are less than significant. (See General Plan Biological Resources Element Programs 1.A.1, 1.A.6, 1.A.7; Policy 1.C; Policies 2.A and 2.B; and Program 2.B.1.)

**Comment H.26:** Finally, the DEIR fails to estimate or quantify the loss of habitat as a result of the Project. The Apple Valley Project Area contains a range of natural communities such as Creosote Bush Scrub, Mojave Mixed Woody Scrub, and Mojave Riparian Forest. The EIR fails to describe what type of loss would occur within those habitat type areas to better inform the impact analysis. The EIR fails to detail what types of natural communities would be lost by Project buildout, and what types of species will be especially impacted by that loss of habitat. The DEIR fails in the basic disclosure requirements of CEQA "to inform the public and its responsible officials of the environmental consequences of their decisions before they are made." *Laurel Heights Improvement Association v. Regents of University of California*, 6 Cal. 4th 1112, 1123 (1993).

**Response H.26:** The EIR includes descriptions of all the habitat types present within the planning area and the region. As clearly seen in Exhibit III-2, the General Plan area is designated either urban/rural (disturbed non-native habitat), or creosote bush scrub, the most common habitat type located in the high desert. As previously stated, the area adjacent to the Mojave River contains Mojave River Sand Fields, and Mojave Riparian Forest. These areas are currently, and will continue to be designated Open Space. The areas of Mojave Mixed Woody Scrub, which are represented in the knolls which occur in the northwestern portion of Town, are also currently, and will continue to be designated Open Space.

Within the creosote bush scrub community, two species of concern have the potential to occur, as stated in the EIR – the Desert tortoise and the Mojave Ground Squirrel. The General Plan and EIR require that projects within these areas prepare focused surveys to determine the presence or absence of these species. Both species are protected, and there are strict standards associated with their protection, requiring the approval of Take Permits from State and federal agencies.

The EIR describes these habitat types, and graphically displays their location. The quantification of acreage at the Program EIR level would not significantly affect the understanding of the public or the decision makers as it relates to the build out of the General Plan or Annexation areas.

The EIR also describes common and special status species, and identifies those special status species which occur in the planning area, and the likelihood of their occurrence. The EIR also requires the preparation of biological resource surveys

for individual projects as they occur, to determine whether these species occur, and if they occur, what preservation, avoidance or other actions must be taken to protect the species under the provisions of the ESA, the CESA, or the California Fish and Game Code. Finally, the General Plan requires the adoption of the Apple Valley HCP, which will govern the protection of special status species on all lands within the planning area.

**Comment H.27:** CEQA requires water supply to be analyzed with a sufficient degree of certainty to assure that water resources will be available for the project and analyze any impacts of providing those resources to the project. The EIR fails to follow the recent guidance issued by the California Supreme Court regarding an adequate analysis of water supply and impacts before a project is approved. *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal. 4th 412 (EIR failed to clearly and coherently explain how the long term water demand of project would be met, the environmental impacts of exploiting the planned sources of water, and how those impacts are to be mitigated). The EIR falls far short of the standards required under CEQA.

The DEIR admits that the Project will contribute to the continued overdraft of the Mojave groundwater basin:

The Basin is in a condition known as overdraft, wherein groundwater discharge exceeds recharge, resulting in a net reduction in groundwater stored in the aquifer...Water levels in the Alto subarea have declined by between 50 and 75 feet since the mid-1940s. Overdraft conditions are currently present in almost all of the subareas in the Mojave River Basin. (DEIR at III-143).

The proposed General Plan and annexations will contribute to a cumulative reduction in groundwater in the Basin. (DEIR VIII-4).

In order to deal with that overdraft the EIR engages in a series of tenuous assumptions regarding the availability of future water and the construction and availability of mitigation measures to provide for more water and water conservation including the following:

that sufficient water supplies will be available to MWA in future to meet the needs of the Basin, and that such supplies are a combination of natural recharge, imported water from SWP and other sources, water conservation, water reuse, and FPA transfers among producers.

All water supplies generated in the MWA, or imported from outside, are recharged into the groundwater basins for future use. The 2005 Urban Water Management Plan prepared by MWA (see below) demonstrates that increased water demands over the next 20 years will require the development and implementation of additional projects and water management actions to ensure sufficient groundwater

recharge to maintain groundwater levels and to protect groundwater quality. (DEIR at III-145)

The assumptions of available groundwater and the ability to provide for water resources is further compounded in the EIR's failure to adequately analyze and disclose the impacts of water scarcity in the annexation areas.

Currently neither annexation area is serviced by any of the water purveyors... Water for existing development, which is limited to scattered single-family residential development in Annexation 2008-001, and an aggregate quarry operation in Annexation 2008-002, is provided by private wells or water delivered by private haulers for storage in privately owned underground storage tanks. (DEIR III-149).

Furthermore, the EIR fails to disclose that additional development in the annexation areas cannot proceed in violation of San Bernardino County Code 33.0623, prohibiting the reliance of development on hauled water.

Where, as here, the water supply is uncertain and a shortfall in those supplies theoretically available is likely, the EIR must evaluate that issue, identify other potential sources, and identify and analyze the environmental consequences of tapping those resources. *Santa Clarita Org. for Planning the Environment v. County of Los Angeles*, 106 Cal. App. 4<sup>th</sup> 715 (2003); *Napa Citizens for Honest Government v. Napa County Bd. Of Supervisors*, 91 Cal. App. 4<sup>th</sup> 342, 371 (2001). Where there is remaining uncertainty that the water supply will be available, the EIR must provide mitigation measures that will prevent development until water supply is secured. *See Napa Citizens*, 91 Cal. App. 4<sup>th</sup> at 374.

**Response H.27:** The EIR thoroughly analyzes water supply and demand. The EIR includes data from the best available sources, including the MWA and the local water purveyors' Urban Water Management Plan, to assess the availability of water. The EIR also discloses that the responsible agencies have identified sufficient water through 2025, and are seeking additional sources of water for periods beyond 2025. The Programmatic nature of this EIR does not require the preparation of Water Supply Assessments, which are required as a mitigation measure in the EIR.

With regard to the continued overdraft of the Mojave Groundwater Basin, the fact that the Basin is overdrafted does not mean that the reliability of that water source is in question. The Basin is adjudicated pursuant to a stipulated judgment, which defines the rights of water pumpers within the Basin. The judgment also established a physical solution to the Basin for the long-term maintenance of groundwater levels in the Basin. This is implemented by the Mojave Water Agency (MWA), which serves as the watermaster of the Basin. MWA allows each water pumper with rights to the Basin an annual Free Production Allowance (FPA), which is an amount of water that can be pumped without having to pay for MWA to purchase imported water for recharge into the Basin.

Ultimately, the FPA is based upon the safe yield of the Basin, i.e., the amount of water that is naturally recharged into the Basin on a yearly basis. However, overproduction from the Basin is allowed according to the terms of the judgment until 2020, with MWA gradually reducing the amount of FPA so as to ease water pumpers into either paying recharge fee for pumping over their FPA or lowering their consumption of water. Therefore, while the Basin is currently in overdraft, this overdraft is controlled and is being slowly erased under the guidance of the watermaster, with the goal of sustainability being achieved by 2020.<sup>3</sup>

The MWA is charged with recharging the regional water basins, consistent with the terms of the adjudication. The MWA utilizes its allocation of State Water Project (SWP) Table A water for this purpose. As previously stated, the MWA receives, every two years, delivery notification from DWR. The Reliability Report is based on all known factors, including 82 years of climatic data, restrictions on deliveries imposed by the Wanger decision, and subsequent determination made by the US Fish and Wildlife Service regarding the delta smelt. The 2007 Report estimated that the MWA would receive 66% to 69% of its allocation in the long term (2027). This estimate included adjustment for the Wanger decision. In 2009, MWA will receive 30% of its allocation, or 23,340 acre feet. This amount will fluctuate annually, depending on the availability of water State-wide, but is consistent with the amount of water purchased by MWA in the last several years, which ranges from 25,000 to 28,000 acre feet. MWA uses this data in all its water planning.

Most significant to the area's planning for water availability are the MWA's storage account, and the basin's ultimate storage capacity. As relates to its storage account, the MWA currently has a storage account of 150,000 acre feet throughout its service area. MWA is also working towards increasing this storage account to 261,000 acre feet. In the Alto subbasin, the MWA currently has 72,583 acre feet in storage. This water is available in dry years to supplement and recharge water pumped from the subbasin in excess of the FPA. It is replenished with SWP deliveries annually.

As regards the basin's capacity, the MWA's analysis has found that the basin has a capacity of 2,086,000 acre feet, and that 1,126,000 acre feet of that capacity is available for recharge. Therefore, the MWA has the ability to store large quantities of water in wet years, and allow their use in dry years to re-balance the basin.

The MWA requirement that each water purveyor pay for the replenishment of the basin for all amounts beyond each purveyor's FPA further benefits the basin, providing direct funds to MWA to purchase SWP water when it is needed.

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<sup>3</sup> Appendix B, Regional Water Supply.

Projected demand in the MWA's water planning has been based on population projections made by the Southern California Association of Governments (SCAG), the recognized regional planning organization in California. Their population estimates are the benchmark used not only by MWA, but by other state and regional agencies in planning future growth. The SCAG projections for population growth in Apple Valley are consistent with population growth which has occurred in Town in the past, and are an accurate benchmark of the growth which can be anticipated in the future. Therefore, the MWA estimates for future water demand are consistent with the anticipated growth for the Town of Apple Valley.

Contrary to the commentor's assertion, there is nothing that requires that all water sources to be relied upon in the future must be readily available at the present time in order to be considered. Rather, the California Supreme Court has recognized that water supplies relied upon in long-term planning documents, such as a General Plan, need not be discounted simply because they are to be realized in the future. (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412.) In fact, the commentor produces no basis on which to doubt that these future water supplies will be not be present.

The EIR correctly acknowledges that the two Annexation areas are currently not served by any water company or district. The EIR also states that the Annexation areas will be annexed to a district (the Apple Valley Rancho Water Company), and that development in the Annexation areas will require the extension of water service infrastructure. At no time does the General Plan or EIR contemplate the use of hauled water to serve any future development within the Annexation areas.

The EIR provides mitigation measures which will increase conservation and reduce demand. The EIR also prescribes the Town's involvement in future water planning with the responsible agencies, to assure that these agencies identify and secure adequate water supplies. Should adequate water supplies not be available in the long term, California law is prescriptive in prohibiting new development, and the Town will conform to these requirements.

The analysis in the EIR is comprehensive and complete, and provides the public and decision makers with an understanding of the issues associated with domestic water, and the mitigation measures to ensure that water supplies are available to meet demand as the General Plan builds out.

**Comment H.28:** The requirement that new developments pay "impact fees" that would pay to import water to recharge depleted aquifers is not "full mitigation," as the DEIR says. Water Districts in the county are already recharging the aquifers they rely on, but are still overdrawing their supplies. There are no large, untapped supplies of potable water available for new recharge facilities in southern California. The State Water Project has little more than enough water to meet its delivery obligations, and the Mojave Water Agency, the State Water Project water purveyor for much of San Bernardino County, will not extend existing contracts or enter into

new ones for water deliveries. Furthermore (sic), additional restriction in water pumping have limited the supply of State Water Project Money, and climate change poses (sic) to further those impacts. The EIR, including its supporting documents like the Urban Water Management Plan fail to address the reductions in anticipated water supply. Under these circumstances, it is not rational to believe that “impact fees” to buy and import water will mitigate, fully or otherwise, the negative effects new developments will have on water supplies and water quality. There is not now enough water to support current development in the long-term, and there is not much more water available to supplement existing supplies.

As mitigation measures that are feasible and that will reduce the negative effects on water supplies and quantity, the County (sic) should adopt policies and regulations that do the following:

- Reduce residential densities in areas where water supplies are being overdrawn by current development, or where water supplies are compromised by natural or man-made contaminants.
- Discourage and restrict uses with heavy water demands from locating in those same areas.
- Mandate water conservation:
- Adopt landscape regulations that prohibit, or at least limit, plants with heavy water demands. Encourage use of native, drought-tolerant vegetation.
- Adopt standards for and encourage installation of gray-water systems.
- Adopt *and enforce* regulations that restrict the grading of lots and removal of native vegetation to the “envelope” for any new building, including and especially any single-family dwelling.
- Require use of pervious surfaces where feasible for driveways and parking lots, to reduce run-off and maintain some recharge capacity for the site.

**Response H.28:** The commentor is incorrect. The EIR does not rely on impact fees as mitigation for water demand. The EIR does not mention impact fees as they relate to water resources. The only mention of fees is in mitigation measure #9., which deals with the payment of connection fees for sanitary sewers.

The commentor should also note that the EIR was prepared for the Town of Apple Valley General Plan and Annexations, and that the Town has no ability to legislate or influence the County of San Bernardino. Nor would any mitigation measures placing requirements on the County be considered effective or feasible.

Finally, with regard to the mitigation measures proposed, the EIR includes mitigation measures which require conservation for new development. The reduction of residential densities has been considered in the General Plan, and has been applied from a land use perspective. The mitigation measures in the EIR assure joint planning with the responsible water purveyors which will assure that development in Apple Valley only occurs when water supplies are available. The General Plan includes requirements for native landscaping, and the Town has a

water conservation ordinance which governs and limits the use of water-intensive plants and turf.

The commentator's suggested mitigation measures are addressed as follows:

- “Reduce residential densities in areas where water supplies are being overdrawn by current development, or where water supplies are compromised by natural or man-made contaminants.” Apple Valley is served by one subbasin, the Alto subbasin. Reductions in densities in one area of Town would be ineffective in controlling overdraft. As stated in the EIR, local water supplies are not contaminated, and well tests show that all substances found in the water supply are below the maximum tolerances established by the State. The proposed mitigation measure would be ineffective.
- “Discourage and restrict uses with heavy water demands from locating in those same areas.” See above. Further, the Town implements conservation for all projects, and “heavy water demand” is generally not an issue in a suburban environment such as Apple Valley. There is no high water using heavy industry in Town, nor is any anticipated as a result of implementation of the General Plan, which allows light industry only in its Industrial land use designations.
- “Mandate water conservation:
- Adopt landscape regulations that prohibit, or at least limit, plants with heavy water demands. Encourage use of native, drought-tolerant vegetation.” The EIR contains these mitigation measures, see Water Resources Mitigations #3 and #13, and Biological Resources Mitigations #11 and #12.
- “Adopt standards for and encourage installation of gray-water systems.” Water Resources Mitigations #4, #5, #7, and #13 provide for similar mitigation encouraging or requiring the use of water efficient appliances and the usage of recycled water for irrigation. As stated in the EIR, the VVRA has developed a recycled water program, which will be extended over time and will allow for the use of such systems in the future. The proposed mitigation measure is not required.
- “Adopt *and enforce* regulations that restrict the grading of lots and removal of native vegetation to the “envelope” for any new building, including and especially any single-family dwelling.” The General Plan requires the preservation of native landscaping throughout the development process. Finally, as it relates to water conservation, the watering of a site results in a high rate of return to the aquifer, as all the water is returned to the groundwater table in the process. The benefits of the proposed mitigation measure, therefore, are questionable.
- “Require use of pervious surfaces where feasible for driveways and parking lots, to reduce run-off and maintain some recharge capacity for the site.” This mitigation measure exists currently in the EIR, in the form of Water Resources mitigation measure #11, and others in the document. The use of pervious surfaces has limited benefit for two reasons: first, the amount of water returned to the aquifer is considerably more limited than retention basins, which are required and have a high rate of return; and second, in the long term,

maintenance of these surfaces does not occur properly, and either results in contaminants traveling into the water recharge, or clogging of the system. At the Program EIR level, this mitigation measure will not be effective in lowering impacts associated with water use.

In order to clarify the Town's commitment to water conservation, the following existing requirements of the General Plan and Development Code are added as mitigation measures to page III- 163:

14. The Town shall restrict the amount of turf planted on all new commercial, industrial, public facilities, multi-family and front yards of single-family residential projects to reduce the amount of water used for irrigation.
15. Irrigation design that reduces overspray and uses conservation techniques shall be required for all new commercial, industrial, public facilities and multi-family projects which will reduce the amount of water used and wasted on irrigation.
16. The Town shall confer and coordinate with the Victor Valley Wastewater Reclamation Authority to explore the possible future provision of recycled/reclaimed wastewater that can serve new and existing development.
17. The Town shall consider incentive programs for the removal of existing turf and replacing the turf with drought tolerant desert landscaping that requires less water.
18. The Town shall proceed with the agreement entered into with the City of Hesperia to design two (2) wastewater reclamation plants that will enable reclaimed water to be used to irrigate Town parks and the Apple Valley Country Club Golf Course.

**Comment H.29:** Despite this significant unmitigable impact and failure to determine future available water sources the preferred plan still blindly moves forward without analyzing the impacts. If future water sources are too speculative to rely upon then the EIR must analyze the potential environmental impacts of other likely water resources that would be relied upon to meet the project demands. Here the EIR fails to analyze future water resources at all by simply stating that those available resources are insufficient.

The Town cannot abdicate its duty under CEQA and applicable state water planning laws and regulations to plan for future water demand and the environmental impacts of providing that water demand. CA Wat. Code § 10610 *et seq.*, 10910 *et seq.*, PRC 21159.1, Gov Code § 65352 *et seq.* The Town must analyze and adopt an alternative that fits within its projected water availability for the short and long term water demands. The DEIR for the General Plan must analyze and describe any

discrepancy between the assumptions and predictions in the General Plan and environmental documents and those found within the applicable Urban Water Management Plan. Failure to address inconsistency between growth projections, assumptions for availability of water supply, and assumptions of environmental impacts must be reconciled.

**Response H.29:**

The commentator's assertion that future water sources are too speculative is incorrect. DWR issued its 2007 Final SWP Delivery Reliability Report (DWR Reliability Report; published August 2008). (The DWR Reliability Report is incorporated herein by reference.) According to the DWR Reliability Report, the long-term average delivery of contractual amounts of SWP Table A supply is expected to range from 63 percent under current (2007) conditions to between 66 and 69 percent under future (2027) conditions. (DWR Reliability Report, pp. 44-45, 51-52, 55-56, 78.) Within that long-term average, SWP Table A deliveries can range from 6 percent (single dry year) to 90 percent of contractual amounts under current (2007) conditions (DWR Reliability Report, p. 44.), and from 6 to 7 percent (single dry year) to 100 percent of contractual amounts under future (2027) conditions. (DWR Reliability Report, pp. 51, 55-56.) The analyses provided in the DWR Reliability Report are based upon 82 years of historical records for rainfall and runoff that have been adjusted to reflect the current and future levels of development in the sources areas by analyzing land use patterns and projecting future land and water uses. (DWR Reliability Report, p. 20) Of key importance, the studies in the DWR Reliability Report for current (2007) through future (2027) conditions assume and account for current facility and institutional limitations, including water quality issues, fishery protections, export curtailments and other requirements under State Board Water Rights Decision 1641, the Vernalis Adaptive Management Plan (VAMP) as described in the 2004 Operations Criteria and Plan (OCAP), and recent court-ordered in-Delta flow targets in Old and Middle Rivers to protect delta smelt (see discussion below regarding litigation in *Natural Resources Defense Council v. Kempthorne*), as well as potential effects of Delta levee failures and other seismic or flood events. (See DWR Reliability Report, pp. 8, 16, 18-21, 27, 30, 32, 35, 37-39, Appendices A and B.) In addition, DWR's long-term SWP delivery reliability analyses incorporate assumptions to account for potential supply shortfalls related to global climate change factors. (Ibid.) In fact, the DWR Reliability Report accounts for potential affects of future climate change on SWP deliveries through the year 2050 by examining four climate change scenarios: weak temperature warming and weak precipitation increase in California under model PCM; modest warming and modest drying under model PCM; modest warming and modest drying under model GFDL v. 2.0; and weak temperature warming and weak precipitation increase in California under model GFDL v. 2.0. (See DWR Reliability Report, pp. 1, 17, 27, 37-39, 43, Appendices A and B.) Thus, the effects of these institutional, administrative and court-ordered reductions in SWP exports, as well as the potential effects of long-term global climate change, have been extensively analyzed and accounted for by DWR's 2007 Final SWP Delivery Reliability Report.<sup>4</sup>

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<sup>4</sup> Appendix B, Regional Water Supply

MWA will continue to secure SWP water, and water from other sources. The amount of water will increase in wet years, and be reduced in dry years. Its ability to store water in wet years, effectively “banking” for the future, will allow it to meet its adjudicated mission of keeping the basin in balance in the long term. The Urban Water Management Plans of the responsible water providers are consistent with the MWA plans and documentation, and the land use pattern proposed by the General Plan. The EIR analyzes and describes existing conditions and anticipated future demand and supply.

Please also see responses #H.27., and #H.28., above.

**Comment H.30:**

An EIR is required to describe a reasonable range of alternatives to the project, which would feasibly attain most of its basic objectives but would avoid or substantially lessen its significant effects. Guidelines § 15126.6(a). “Without meaningful analysis of alternatives in the EIR, neither courts nor the public can fulfill their proper roles in the CEQA process.” *Laurel Heights Improvement Ass’n v. Regents of University of California*, 47 Cal.3d 376, 404 (1988). The City has a substantive duty to adopt feasible, environmentally superior alternatives. Pub. Res. Code § 21002, Cal Code Regs §§ 15002(a)(3), 15021(a)(2). A lead agency cannot abdicate this duty unless substantial evidence supports a finding that the alternative is infeasible. *See, e.g., Citizens of Goleta Valley v. Board of Supervisors* (1988) 197 Cal.App.3d 1167, 1181.

The EIR fails to consider a reasonable range of alternatives. Indeed, absent data on the Town’s projected growth and the timeframe for the General Plan update it is impossible to examine alternatives to meet the Project’s purpose. Rather than focus on means to achieve projected growth, the two alternatives are misleadingly dubbed a “more intensive” and “less intensive” scenario. These alternatives are not more or less intense, but rather call for more or less growth. An alternative should be developed to accommodate a similar amount of growth as needed, but in a less environmentally intense way, by focusing on infill development rather than vacant areas on the outskirts of town (such as the two proposed annexation areas).

The Town must consider alternatives that incorporate strict energy and water conservation measures, require green building practices and mixed-use development and place development near alternative transportation nodes. A “smart growth” alternative can meet the project objectives while providing for a more walkable, mixed-use, and public transit friendly community. Such alternatives would result in a significant reduction in greenhouse gas emissions resulting from VMTs and energy consumption. It would also result in fewer greenhouse gas emissions from construction and development, as the Town would not have to build new infrastructure throughout unincorporated.

The Town should set forth and frame an alternative as a “low carbon” alternative and discuss the types of measures and land use decisions that would be required for

the Town to comply with AB 32 targets and move forward to 2050 reduction targets. (California Attorney General 2009). Mitigation Measures to encourage the “low carbon” alternative are described above and can be easily achieved while reaching the project objectives for the General Plan Update. To the extent the Town rejects the low carbon alternative or feasible mitigation measures that decision must be supported by substantial evidence. These alternatives would meet the Town’s basic goals and objectives of its General Plan Update and, therefore, must be considered.

**Response H.30:** Please see responses #H.4. and #H.5., above. It is important to note that in the selection of alternatives, CEQA states: “An EIR shall describe a range of reasonable alternatives to the project,...which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project...(15126.6) The alternatives suggested by the commentor are not reasonable or feasible because they would not meet the majority of the objectives of the Project and would be infeasible from a policy standpoint. The proposed General Plan and alternatives are based on the extensive public outreach and community input which was undertaken to develop the General Plan. The residents, businesses and land owners of the community identified their goals and vision for the fundamental orientation of the Town. Specifically, the Town is a rural community featuring relatively low-density residential land uses which allow animal keeping and a rural lifestyle. The alternatives suggested by the commentor for high-density, urban development, smart growth and transit-oriented development are not compatible with the nature of the community, would not meet the majority of the objectives identified in the EIR, and thus are not reasonable alternatives for analysis in the document.

**Comment H.31:** Finally, the Town must explain its analysis of the alternatives in more detail so that the public and decision-makers can better determine how they would or would not achieve the goals and objectives of the General Plan Update, lessen the environmental impacts resulting from growth and development and why the Town eventually chose this General Plan Update, rather than more environmentally-friendly alternatives.

**Response H.31:** The commentor is incorrect. The EIR includes quantified analysis of each of the alternatives, and provides a comparison with the proposed General Plan in terms of percentage increase/decrease in impact for each of these quantifications. The EIR also clearly states whether each alternative, categorically, would have a lesser, equivalent or greater impact on the environment than the proposed General Plan. Lastly, the basis for the rejection of the No Project Alternative and the Environmentally Superior Alternative is listed on page V-80 of the EIR.

**Comment H.32:** Once emissions from the proposed General Plan Update are fully quantified, the DEIR should compare the Project with the emission resulting from the various project alternatives. UPLAN is one type of modeling software that allows for emission to be measured using differing land use and growth assumptions. Only by

comparing emissions among alternatives will decision makers and the public be properly informed of the global warming impacts of the project.

**Response H.32:** The commentor is incorrect in assuming that emissions for alternatives were not quantified. Emissions estimates have been provided for each of the alternatives in the EIR. Further, the GHG emissions associated with the provision of domestic water for each of the alternatives have been provided in Appendix C to this document. The EIR discloses the level of emissions, and describes whether the impacts would be greater than, less than or equivalent to the proposed General Plan, and whether the impacts would be above or below established thresholds, on a pollutant by pollutant basis. The analysis in the EIR is comprehensive and complete.

**Comment H.33:** CEQA requires recirculation of a revised draft EIR “[w]hen significant new information is added to the environmental impact report” after public review and comment on the earlier draft DEIR. Pub. Res. Code § 21092.1. This includes the situation where, as here, “[t]he draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.” Guidelines § 15088.5(b)(4). The opportunity for meaningful public review of significant new information is essential “to test, assess, and evaluate the data and make an informed judgment as to the validity of the conclusions to be drawn therefrom.” *Sutter Sensible Planning, Inc. v. Sutter County Board of Supervisors*, 122 Cal.App.3d 813, 822 (1981); *City of San Jose v. Great Oaks Water Co.*, 192 Cal.App.3d 1005, 1017 (1987). An agency cannot simply release a draft report “that hedges on important environmental issues while deferring a more detailed analysis to the final [EIR] that is insulated from public review.” *Mountain Lion Coalition v. California Fish and Game Comm’n*, 214 Cal.App.3d 1043, 1053 (1989).

In order to cure the panoply of defects identified in this letter, the Town will have to obtain substantial new information to adequately assess the proposed Project’s environmental impacts, and to identify effective mitigation capable of alleviating the Project’s significant impacts. CEQA requires that the public have a meaningful opportunity to review and comment upon this significant new information in the form of a recirculated draft EIR.

**Response H.33:** The responses provided in this document demonstrate that the EIR is an accurate and comprehensive assessment of the impacts associated with the implementation of the General Plan and Annexation areas. The responses provided herein do not result in significant new information, nor is significant new information required to be identified and gathered. No significant mitigation measures or data have been added in this response which would result in any changes to the findings or conclusions of the EIR. The EIR does not require recirculation.

**Comment H.34:** Thank you for your consideration of these further comments. Although the comment period for the Draft EIR has passed, because the following comments relate to matters that must be included in an EIR, we hope that the lead agencies will

consider the comments in their preparation of the Final EIR. We also respectfully remind the City and Department of Transportation that under Public Resources Code § 21167.6(e)(6-7) all written comments received in connection with environmental documents become part of the administrative record for the environmental document and must be considered by the Lead Agencies in preparation, review, and approval of environmental documents.

**Response H.34:** Comment noted. The Department of Transportation has no jurisdiction in the approval of this General Plan, and has not been contacted, to the Town's knowledge, regarding this comment letter. The Town would also point out to the commentor that the proper nomenclature in referring to the Town is as a "Town," not a "City."

**SECTION II**  
**COMMENT LETTERS**

The following comment letters were received on the Draft EIR transmitted to various public agencies and interested parties. Comments restated in Section I are bracketed in this section and correspond to the comment numbers in Section I.



STATE OF CALIFORNIA  
GOVERNOR'S OFFICE of PLANNING AND RESEARCH  
STATE CLEARINGHOUSE AND PLANNING UNIT



ARNOLD SCHWARZENEGGER  
GOVERNOR

CYNTHIA BRYANT  
DIRECTOR

March 30, 2009

RECEIVED

APR 6 2009

Lori Lamson  
City of Apple Valley  
14955 Dale Evans Parkway  
Apple Valley, CA 92307

Community Development

Subject: Town of Apple Valley General Plan Update and Annexations 2008-01 and 2008-02  
SCH#: 2008091077

Dear Lori Lamson:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on March 26, 2009, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts  
Director, State Clearinghouse

Enclosures  
cc: Resources Agency

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2008091077  
**Project Title** Town of Apple Valley General Plan Update and Annexations 2008-01 and 2008-02  
**Lead Agency** Apple Valley, City of

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**Type** EIR Draft EIR

**Description** The proposed project is a comprehensive General Plan update that addresses 46,948.3+/- acres in the Town's corporate limits, and 3,579.7+/- acres in unincorporated San Bernardino County within the Town's Sphere-of-Influence that are proposed for annexation into Apple Valley. The project includes changes to land use and zoning designations, circulation system, and new goals, policies, and programs for all General Plan elements.

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**Lead Agency Contact**

**Name** Lori Lamson  
**Agency** City of Apple Valley  
**Phone** (760) 240-7000 x7204  
**email**  
**Address** 14955 Dale Evans Parkway  
**City** Apple Valley  
**State** CA **Zip** 92307  
**Fax**

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**Project Location**

**County** San Bernardino  
**City** Apple Valley  
**Region**  
**Lat / Long** 34° 31' 54" N / 117° 12' 39" W

**Cross Streets**

**Parcel No.**

<b>Township</b>	<b>Range</b>	<b>Section</b>	<b>Base</b>	<b>SBB&amp;M</b>
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**Proximity to:**

**Highways** 18, I-15  
**Airports** Apple Valley, Osborne Airstrip  
**Railways**  
**Waterways** Mojave River  
**Schools** AVUSD (all)  
**Land Use** All

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**Project Issues** Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Economics/Jobs; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Growth Inducing; Landuse; Cumulative Effects; Aesthetic/Visual

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**Reviewing Agencies** Resources Agency; Department of Conservation; Department of Fish and Game, Region 6; Cal Fire; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Services; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 8; Department of Toxic Substances Control; Native American Heritage Commission; State Lands Commission

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**Date Received** 02/10/2009      **Start of Review** 02/10/2009      **End of Review** 03/26/2009

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State of California - The Resources Agency

ARNOLD SCHWARZENEGGER, Governor

## DEPARTMENT OF FISH AND GAME

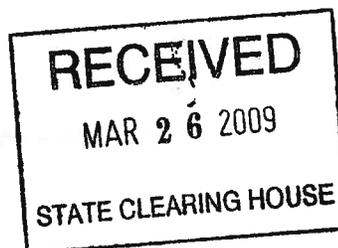
http://www.dfg.ca.gov  
 Inland Deserts Region (IDR)  
 407 West Line Street  
 Bishop, CA 93514  
 (760) 872-1171



March 25, 2009

Ms. Lori Lamson  
 Town of Apple Valley  
 14955 Dale Evans Parkway  
 Apple Valley, CA 92307

Clear  
 3-26-09  
 e



Subject: Proposed Draft Environmental Impact Report (DEIR) Apple Valley General Plan and Annexations 2008-001 & 2008-002. SCH # 2008091077.

Dear Ms. Lamson,

The Department of Fish and Game (Department) has reviewed the DEIR for the above referenced project. The project proposes to amend the Town of Apple Valley's General Plan and to address the environmental impacts associated with annexations 2008-001 and 2008-002. The project is located within San Bernardino County near and encompassing Town of Apple Valley.

The Department is providing comments on the DEIR as the State agency which has statutory and common law responsibilities with regard to fish and wildlife resources and habitats. California's fish and wildlife resources, including their habitats, are held in trust for the people of the State by the Department (Fish and Game Code §711.7). The Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitats necessary for biologically sustainable populations of those species (Fish and Game Code §1802). The Department's Fish and wildlife management functions are implemented through its administration and enforcement of Fish and Game Code (Fish and Game Code §702). The Department is a trustee agency for fish and wildlife under the California Environmental Quality Act (see CEQA Guidelines, 14 Cal. Code Regs. §15386(a)). The Department is providing these comments in furtherance of these statutory responsibilities, as well as its common law role as trustee for the public's fish and wildlife.

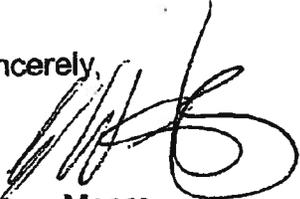
As stated in the DEIR Section III-62: "It is assumed that individual land development actions will require site-specific evaluations identifying potential impacts to biological resources." The Department stresses the importance of site-specific evaluation of potential projects.

The proposed project is within the range of the Mohave ground squirrel (MGS). Not all lands within the range are potential habitat for the MGS. The Department reviews the potential for MGS habitat on a site specific basis. Under Section III-55, Sensitive Mammal Species of the DEIR, it is stated "...the historic range of which [the Mohave ground squirrel] is thought to occur within the planning area. However, due to habitat fragmentation related to agriculture and urban development, this species appears to have been extirpated from the Victor Valley region." The Department has not concurred

with this determination. The Department evaluates potential MGS habitat on a site-by-site basis and as such, individual habitat analyses with documentation stating why the lands are not considered MGS habitat should be submitted to the Department for our concurrence, and be available for public review. The Department will use the information to determine if it concurs with the analysis. CEQA requires the lead agency to support their finding that the project will not have a significant impact on the environment. Without this documentation, the finding is not supported. In addition, if the sites do contain occupied habitat, the developer is at risk of taking a Threatened species without an Incidental Take Permit, which is a violation of Fish and Game Code §2080.

Questions regarding this letter and further coordination on these issues should be directed to Mr. Eric Weiss, Environmental Scientist at (760) 246-8828.

Sincerely,

  
for Tonya Moore  
Senior Environmental Scientist

cc: Eric Weiss, CDFG  
State Clearinghouse

**DEPARTMENT OF FISH AND GAME**

<http://www.dfg.ca.gov>  
Inland Deserts Region (IDR)  
407 West Line Street  
Bishop, CA 93514  
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March 25, 2009

Ms. Lori Lamson  
Town of Apple Valley  
14955 Dale Evans Parkway  
Apple Valley, CA 92307

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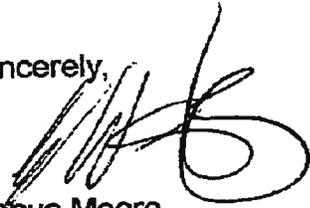
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*Conserving California's Wildlife Since 1870*

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Sincerely,



*for* Tonya Moore  
Senior Environmental Scientist

cc: Eric Weiss, CDFG  
State Clearinghouse

# MEMORANDUM

**To:** Lori Lamson, Assistant Director of Community Development, Town of Apple Valley

**CC:** Becky Reynolds, Principle Planner, Town of Apple Valley  
Nicole Sauviate Criste, Terra Nova

**From:** Heidi Brannon, Solution Strategies, Inc.

**Date:** March 18, 2009

**RE:** Review of Draft EIR/S

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As part of our effort to develop the Town's Multispecies Habitat Conservation Plan (MSHCP), Solution Strategies, Inc. completed a general review of the Town's Draft EIR for the General Plan Update. Based upon our review of the Draft EIR, we believe the document incorporates the information needed to aid in the support of the MSHCP. We do, however, have two minor comments, which are as follows:

*III-59, ¶5, Line 8-9:* A disclaimer is needed regarding jurisdictional areas. Not all jurisdictional areas may be delineated.

*Exhibit III-3:* The notes regarding jurisdictional waters only apply to waters that fall within the purview of the federal Clean Water Act. Many of the drainages shown as non-jurisdictional waters in the Exhibit fall under the jurisdiction of California Department of Fish and Game (CDFG) and would require appropriate state permits (i.e., a Streambed Alteration Agreement) for activities affecting those stream courses. We suggest that CDFG's authority over waterways is mentioned as well. This comment also applies to the supporting biology technical report.

Please feel free to contact me by phone at (310) 641-0920 or by email at [heidi@solutionstrategies.com](mailto:heidi@solutionstrategies.com) should you have any questions regarding our comments.

STATE OF CALIFORNIA  
PUBLIC UTILITIES COMMISSION  
320 WEST 4<sup>TH</sup> STREET, SUITE 500  
LOS ANGELES, CA 90013

Post-it® Fax Note	7671	Date	3/23	# of pages	3
To	Nicole	From	Becky		
Co./Dept.	Terra Nova	Co.	TDAV		
Phone #		Phone #	240-7000 x7201		
Fax #	760.322-2760	Fax #			

EGGER, Governor



March 16, 2009

Lori Lamson, Asst. Dir. Com. Dev.  
Town of Apple Valley  
14955 Dale Evans Parkway  
Apple Valley, CA 92307

RECEIVED  
MAR 23 2009  
Community Development

Dear Ms. Lamson:

Re: SCH# 2008091077; Town of Apple Valley General Plan Update and Annexations 2008-002

The California Public Utilities Commission (Commission) has jurisdiction over the safety of highway-rail crossings (crossings) in California. The California Public Utilities Code requires Commission approval for the construction or alteration of crossings and grants the Commission exclusive power on the design, alteration, and closure of crossings.

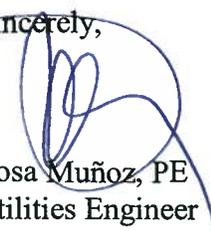
The Commission's Rail Crossings Engineering Section (RCES) is in receipt of the *Notice of Completion & Environmental Document Transmittal-Draft EIR* from the State Clearinghouse for the city's General Plan update. As the state agency responsible for rail safety within California, we recommend that the City add language to the General Plan so that any future proposed development adjacent to or near BNSF railroad right-of-way be planned with the safety of the rail corridor in mind. New developments may increase traffic volumes not only on streets and at intersections, but also at at-grade highway-rail crossings. This includes considering pedestrian circulation patterns/destinations with respect to railroad right-of-way.

Mitigation measures to consider include, but are not limited to, the planning for grade separations for major thoroughfares, improvements to existing at-grade highway-rail crossings due to increase in traffic volumes and continuous vandal resistant fencing or other appropriate barriers to limit the access of trespassers onto the railroad right-of-way.

Language should be in place so that any traffic impact studies undertaken for proposed projects should also address traffic increase impacts over affected crossings and associated proposed mitigation measures.

If you have any questions in this matter, please contact me at (213) 576-7078 or at [rxm@cpuc.ca.gov](mailto:rxm@cpuc.ca.gov).

Sincerely,

  
Rosa Muñoz, PE  
Utilities Engineer  
Rail Crossings Engineering Section  
Consumer Protection & Safety Division



## Department of Toxic Substances Control

Linda S. Adams  
Secretary for  
Environmental Protection

Maziar Movassaghi, Acting Director  
5796 Corporate Avenue  
Cypress, California 90630



Arnold Schwarzenegger  
Governor

RECEIVED

MAR 23 2009

March 17, 2009

Ms. Lori Lamson  
Assistant Director of Community Development  
Town of Apple Valley  
14955 Dale Evans Parkway  
Apple Valley, California 92307

Community Development

### NOTICE OF COMPLETION OF A DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR TOWN OF APPLE VALLEY GENERAL PLAN UPDATE AND ANNEXATIONS 2008-001 AND 2008-002 PROJECT, (SCH # 2008091077), SANBERNARDINO COUNTY

Dear Ms. Lamson:

The Department of Toxic Substances Control (DTSC) has received your submitted Notice of Completion of a Draft Environmental Impact Report (DEIR) No. 471 for the above referenced project. Your document states: "The town of Apple Valley is located in the southwestern portion of the County of San Bernardino. The proposed general Plan study area encompasses approximately 78 square miles. The General plan study area is comprised of lands within the Town's corporate limits as well as the two annexation areas described as Annexation 2008-001 and Annexation 2008-002. The proposed project is a comprehensive General Plan update that addresses 46,948.3 +/- acres in the Town's corporate limits, and 3,579.7 +/- areas in unincorporated San Bernardino County within the Town's Sphere of Influence that are proposed for annexation into Apple Valley. The project includes changes to land use and zoning designations, circulation system, and new goals, policies, and programs for all General Plan. There are approximately 2,774 acres within the proposed Annexation 2008-001 area. Of these, approximately 2,552.1 acres (92%) are vacant and undeveloped desert lands. There are approximately 805 acres within the proposed Annexation 2008-002 area, of which nearly all is vacant and undeveloped." DTSC has the following comments:

- 1) DTSC provided comments on the project Notice of Preparation (NOP) on October 21, 2008; please address those comments in the DEIR for the proposed project.

Ms. Lori Lamson

March 17, 2009

Page 2 of 2

- 2) If necessary, DTSC can provide guidance for cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see [www.dtsc.ca.gov/SiteCleanup/Brownfields](http://www.dtsc.ca.gov/SiteCleanup/Brownfields), or contact Ms. Maryam Tasnif Abbasi DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489.

If you have any questions regarding this letter, please contact Mr. Rafiq Ahmed, Project Manager, at [rahmed@dtsc.ca.gov](mailto:rahmed@dtsc.ca.gov) or by phone at (714) 484-5491.

Sincerely,



Greg Holmes

Unit Chief

Brownfields and Environmental Restoration Program - Cypress Office

cc: Governor's Office of Planning and Research  
State Clearinghouse  
P.O. Box 3044  
Sacramento, California 95812-3044  
[state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov).

CEQA Tracking Center  
Department of Toxic Substances Control  
Office of Environmental Planning and Analysis  
1001 I Street, 22nd Floor, M.S. 22-2  
Sacramento, California 95814  
[nritter@dtsc.ca.gov](mailto:nritter@dtsc.ca.gov)

CEQA#2475



**Mojave Desert Air Quality Management District**

14306 Park Avenue, Victorville, CA 92392-2310

760.245.1661 • fax 760.245.2699

Visit our web site: <http://www.mdaqmd.ca.gov>

Eldon Heaston, Executive Director

February 13, 2009

Ms. Lori Lamson, Assistant Director of Community Development  
 Town of Apple Valley  
 14955 Dale Evans Parkway  
 Apple Valley, CA 92307

**RECEIVED**  
 FEB 17 2009  
 Community Development

**Subject Project: Draft Environmental Impact Report for the Apple Valley General Plan and Annexations 2008-001 & 2008-002**

Dear Ms. Lamson:

The Mojave Desert Air Quality Management District (MDAQMD) has received the Draft Environmental Impact Report for the Apple Valley General Plan and Annexations 2008-001 & 2008-002 Project. This DEIR was prepared to analyze the environmental constraints and opportunities associated with the adoption of the Apple Valley Comprehensive General Plan and two planned annexations. It assesses impacts and establishes appropriate mitigation measures. Further, it is intended to be used as an informational database to streamline and facilitate the tiering of the environmental review processes for future projects proposed in the Town.

The District noted that state and federal ozone standard on page III-16 should be updated to "Non-attainment; classified Severe-17." MDAQMD Designations and Classifications are available at [http://www.mdaqmd.ca.gov/rules\\_plans/documents/CEQAGuidelines.pdf](http://www.mdaqmd.ca.gov/rules_plans/documents/CEQAGuidelines.pdf).

We have reviewed the project and, based on the information available to us at this time, we have no further comments.

Thank you for the opportunity to review this planning document. If you have any questions regarding this letter, please contact me at (760) 245-1661, extension 6726, or Tracy Walters at extension 6122.

Sincerely,

**Alan J. De Salvio**  
 Supervising Air Quality Engineer

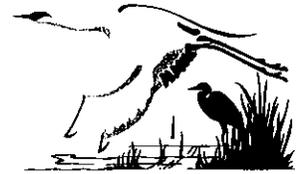
Post-it® Fax Note	7671	Date	3/23	# of pages	1
To	Nicole	From	Becky		
Co./Dept	Terra Nova	Co.	TDAV		
Phone #		Phone #	240-7000X7201		
Fax #	760.322-2760	Fax #			

TW/AJD

AV General Plan & Annexations 2008-001, 002

# TOM DODSON & ASSOCIATES

2150 N. ARROWHEAD AVENUE  
SAN BERNARDINO, CA 92405  
TEL (909) 882-3612 • FAX (909) 882-7015  
E-MAIL tda@tdaenv.com



March 22, 2009

Ms. Lori Lamson  
Assistant Director of Community Development  
Town of Apple Valley  
14955 Dale Evans Parkway  
Apple Valley, CA 92307

Dear Ms. Lamson:

Tom Dodson & Associates (TDA) serves as the environmental consultant for the San Bernardino County Local Agency Formation Commission (LAFCO or Commission) which will serve as a Responsible Agency for future annexations within the Town of Apple Valley's Sphere of Influence as defined in the Draft Environmental Impact Report (EIR) released for public review on February 10, 2009 (Draft EIR for the Comprehensive General Plan and Annexations No. 2008-001 and No. 2008-002). On behalf of the Commission I have compiled comments on the EIR based on my review of the EIR. I have developed the following specific comments on the content of this document with the goal of enhancing the environmental document so it can be used by LAFCO for future responsible agency actions under the California Environmental Quality Act (CEQA). Overall, the Town has compiled an impressive data base from which it can forecast potential significant adverse impacts of future development. However, there are a number of issues for which we have developed questions and some suggestions for improving the content of the final EIR. Limited editorial comments are also provided along with the substantive comments for the Town's consideration.

Comments on the specific text of the document are discussed in the order that they occur in the City's Draft EIR.

Page I-1: As the Town is aware, the legal authority for annexation of territory to the Town resides with the Commission. The Town has the authority and responsibility to Pre-zone property prior to submitting and processing an application for annexation. After reviewing the whole Draft EIR I did not find a reference to a Pre-zone designation(s) for the two areas (2008-001 and -002) evaluated for annexation. Without such Pre-zone designations and an evaluation of the impacts associated with the proposed Pre-zone designations, it may not be possible to rely upon the Draft EIR as a base environmental document for future annexation requests. Please clarify this issue and the status of the Town's efforts to Pre-zone the two proposed annexation areas. If the Town is pre-zoning the two annexation areas, then it needs to clearly identify this.

Page I-1: Throughout the document the two proposed annexations are identified in various ways, i.e., annexation areas, two planned annexations, proposed annexations, etc. I could find no clarification regarding the status of the "proposed annexations." First, it would help the Commission if all references to the proposed annexation areas are consistent throughout the document. Second, have the applications for Annexations No. 2008-001 and No. 2008-002 been submitted to LAFCO for processing? If so, what is their current status? Or are these two areas

identified for future submittal of annexation applications to LAFCO and simply being identified with these annexation numbers for reference only? Please clarify.

Page I-3: The list of agencies that will review the Draft EIR does not include the San Bernardino County Local Agency Formation Commission. Please revise this list to include the LAFCO.

Page I-5: Before considering annexation, it will be necessary for the Town to establish Pre-zone designations for any proposed annexation areas. This would appear to be the appropriate time to conduct the environmental evaluation of areas proposed to be incorporated into the Town boundaries. Please clearly identify if the Town is pre-zoning the two annexation areas as part of this document.

Page I-11: First paragraph under Surrounding Land Uses, I believe that the San Gabriel Mountains are located southwest of the Town, not south. Please revise the text accordingly. See also page II-3 for the same change.

Page 1-27: Identify the pre-zone designations for the two annexation areas.

Page II-5: Second paragraph, should "Sonoran" be "Mojave"?

Page II-6: Bottom paragraph, capitalize "valley" and what "strand" mean in this instance. The typical meaning is land adjacent to a body of water. Please clarify.

Page II-7: Top paragraph, should "Highway 56" be "Highway 58"?

Page II-8: First paragraph under G., it is not clear that the MWA has management responsibility for any "surface" within its service area. I assume the text means "surface water resources," but I am not aware of any surface water management responsibilities by MWA. Please clarify.

Second paragraph, the exhibit number is not identified.

Bottom paragraph, the reference to 82,400 acre feet of water is not clear based on the text discussion. I assume that the EIR is referencing the estimated amount of average annual recharge to the Mojave River Basin, because groundwater in storage, even in the Alto Subarea, is substantially greater than this volume. Also, the value 34,700 acre-feet of water appears to reference the estimated amount of average annual recharge to the Alto Subarea. Please clarify how these values address water resources available within the Mojave River Basin.

Page II-9, top paragraph, the reference to Bell Mountain Wash appears to be limited to the natural tributaries originating within the project area, as numerous other tributaries, many comparable to Bell Mountain exist within the Mojave River drainage basin. Please clarify.

Second to bottom paragraph, nitrate concentrations for public health purposes are typically limited to 10 ppm instead of 45 ppm due to potential damage to babies. The text may need to be revised to address this issue.

Page II-10: Bottom of page, since the Arroyo Toad occurs within the Mojave River upstream of the Mojave Forks Dam, the text may need to be revised to identify it as an amphibian species

associated with the southern area of the Mojave River corridor. Also, the desert tortoise is a fairly common reptile in the Town.

Page II-11: Fourth paragraph on page, for some strange reason the Mohave ground squirrels name has an "h" instead of a "j". Please correct throughout the document.

Page II-13: First paragraph under Air Quality, there are no San Bernardino and Los Angeles County air basins, only the South Coast Air Basin.

Page II-14: Top paragraph, the text that reads "Particulate matter and consists of" appears to be a misprint. Please clarify. Also, MDAQMD has established values for annual emissions, but as far as I know they do not have adopted thresholds of significance like the South Coast Air Quality Management District. Please verify this statement.

Page II-14: Second paragraph, the new OPR thresholds for GHG may need to be referenced here.

Also, in the middle of the paragraph the text reads "In the interim." Please correct text as appropriate.

Page II-14: Third paragraph, in the parenthesis for stationary sources, please include the term "equipment" since not all stationary sources are for energy and natural gas. Also note, that the SCAQMD terms energy and natural gas consumption as "area sources" as opposed to pieces of equipment that are stationary sources.

Page II-16: First paragraph under Domestic Water, again note that MWA has no control over reliability of surface water as it is a natural phenomenon. Also, since this is the first use of "SWP" suggest defining what it is.

Page II-18: Second paragraph under Fire Protection, what is the current ratio relative to the desired ratio?

First paragraph under Police Protection , what is the current ratio for officers per population?

Page II-19: Second paragraph under Medical Facilities, why is the HDJDAC listed under medical facilities?

Page II-20: third paragraph, there is no longer an Atchison Topeka & Santa Fe Railroad. The railroad is presently titled: BNSF Railway Company.

Page III-2: Second paragraph, this location description is confusing. Please revise, as the Town is not located between Victorville and Hesperia. Please correct.

III-3: First paragraph under Annexation Areas, please clarify the surrounding land uses are around the annexation areas into which the proposed General Plan land uses will be integrated.

Page II-4: Summary of Impacts, as a general comment, the analysis of impacts for almost all issues provides very general impact conclusions without any quantification or characterization. Then, based on these very generalized impact conclusions a finding is generally made that these

impacts can be reduced to a less than significant level, without any discussion of how this is achieved. Just listing measures does not demonstrate how impacts are reduced or eliminated. For example, in this instance it is concluded that the change visual character of land from open desert to either an urban or suburban visual setting, sometimes encompassing thousands of acres, can be mitigated by design guidelines that will make the urban environment visually acceptable. However, this ignores the fundamental change of the landscape from open space to urban setting which is what should be evaluated. There is no mitigation for such a change, and the analysis should focus on this impact, not on whether the urban setting can be made visually appealing. The same applies to light and glare issues, there are no lights and no glare in the open desert, but there will be lights and glare in the urban setting. This is an unavoidable change. If the Town finds that it is not a significant impact, the rationale why should be incorporated into the impact findings.

Page III-9: Top of page, does the Town equate equestrian residences, small ranchettes, and hobby farms to agriculture as depicted in the thresholds of significance? Please clarify.

Under mitigation measure 1, second line, should the word "lands" read "land uses?"

Under mitigation measure 2, throughout the document measures requiring coordination and sharing data are identified as mitigation. Such measures are important policy and data gathering commitments, but they do not in and of themselves mitigation anything.

Page III-13: Second paragraph, I believe air quality has improved over the last few decades in conjunction with improved air quality in the SoCAB. Text should be corrected.

Part III-16: First paragraph, I do not believe that the PM2.5 standard is being exceeded in the MDAB. Please check, and I believe the area is in attainment or unclassified for Federal PM2.5 standards and it may be in attainment for PM10 at the Federal level.

Page III-21: Bottom of page, actually reduced densities can reduce the vehicle miles traveled and emissions of ozone precursors.

Page III-22: Top of page, how much of an impact. This value should be quantified, or at least identified as a percentage increase in ozone precursors relative to existing estimated emissions.

Table III-6, the 26.4 lbs/day is based on watering disturbed construction sites.

Bottom of page, a reasonable way to quantify estimates would be to assume some percentage of development of undeveloped land within the project area on an annual basis based on past experience and use that to make a forecast.

Page III-23: The assumption that energy emissions are produced outside of the MDAB is not correct. There are several power plants within the MDAB, including Victorville, Barstow and Boron.

Page III-27: Please clarify whether the increased emissions are total from General Plan buildout or the net increment from developing undeveloped property.

Page III-28: Bottom of page, please clarify how the term "indirect" is being used regarding electricity use since the electricity is being used by development within the Town.

Page III-29: What is the current percent of total GHG emissions of total California emission?

Page III-31: Probably need to note the level of emission under the existing environmental setting in both proposed annexation areas and the potential level of emissions with buildout under County jurisdiction.

Page III-32: Do the GHG emissions from annexation areas represent a significant impact? Same on Page III-34.

Page III-55: Change "Mojave" to "Mohave." Also, on page III-58.

Page III-62: Some quantification of the net loss of plant communities/habitat for each category should be provided relative to the amount of such habitat within the Town.

Page III-67: How do the biology mitigation measures reduce impacts within the Town relative to the amount of habitat that will be lost?

Page III-81: Third paragraph, should the work "Deposition" be "Deposits?"

Page III-89: Second paragraph, I am sure that some would equate earthquakes to impending "rapture," but in this case it should probably be "rupture."

Page III-95: Pisgah and Emerson Faults, for consistency the text should be augmented to include the Mercalli intensities.

Page III-96: Bottom of page, insert the word "of" between "result" and "amplified."

Page III-101: The geology impact analysis does not address topographic modifications that will be permitted within the project area nor does it identify any differential mitigation for structures based on need to remain functional after a major seismic event, rather than just protective of safety. Please discuss.

Page III-108: CUPA agencies are usually local agencies, not state agencies as implied in the third paragraph.

Page III-109: Bottom two paragraphs, Certified Unified Program Agency is used twice in this text, instead of CUPA, which was previously defined.

Page III-110: Check reference to AT&SF; should be BNSF Railway Company. Please correct throughout the Draft EIR text.

Page III-114: Second paragraph, replace "bee" with "been."

Page III-116: Under Annexation 2008-001 and -002, no discussion of potentially contaminated areas is provided; please check the record data bases for these areas.

Page III-119: The text for the thresholds should note that water quality issues are actually addressed in the following chapter of the Draft EIR.

Page III-121: Revise the text by adding "the" between "in" and "area."

Page III-130: Bottom paragraph, line 6, change "are" to "area."

Page III-132: Top paragraph, line 5, change "design" to "Design."

Lake Arrowhead Dam (owned by the Arrowhead Lake Association) is fronted by Papoose Dam, which is owned by the County. It was completed in the 1970s.

Page III-134: NPDES, note that NPDES permits are not only for non-point source discharges, but also for direct discharges from a point source into a water body.

Page III-135: Top of page, note that when a 404 Permit is not required, the Regional Board has the authority to issue waste discharge requirements for discharges of fill under Porter Cologne.

Page III-137: Second paragraph, there is no analysis of potential impacts due to tank failure under existing conditions. Where could such flood damage occur at the present time? Please analyze.

Page III-142: Fifth paragraph, second line, the word "streamed" should be "streams" or "streambed."

Page III-146: Top of page, it is not clear that proximity to the Mojave River causes the Alto Subarea to have the "largest water supply" in the Basin. It is more probably that this Subarea is closest in proximity to the Basin's headwaters where most of the runoff is generated.

Second paragraph, the 82,400 acre-feet of water needs to be properly qualified, i.e., average annual runoff, not total volume of stored groundwater.

Page III-147: AVRWC paragraph, bottom lines, why is the term "may" used when it is clear that substantial additional water system infrastructure will be needed to meet future water demand.

Golden State: what is this agency's FPA?

Page III-151: VVWRA does not use 10,000 acre-feet of reclaimed water per year. It discharges about 8,500 acre-feet to meet downstream obligations and uses only a modest amount of the 10,000 acre-feet of treated effluent. Please contact VVWRA and obtain the correct values. MWA estimates have been significantly altered by the Wanger decisions and should be taken into account.

Page III-154: Top of page, the 1,000 mg/L for TDS is high as the primary drinking water standard is 500 mg/L for TDS.

Third paragraph, again the MCLG for nitrate may be 45 ppm, but the health protective value is 10 mg/L.

Page III-156: Top paragraph, most pollution control measures require some ground disturbance to install and maintain. Like most mitigation measures there is a requirement to evaluate the

environmental effects before implementation. It is not clear where the comment about no CEQA analysis for such measures comes from. Please clarify.

Second paragraph, the comparison for General Plan evaluation is not plan to plan but content of the proposed Plan with what is on the ground. The potential effect of the new Plan will be all development from the point forward from the Plan's adoption. The future impacts to water demand and other water resources related effects should be calculated based on the actual potential future development.

Third paragraph, should more clearly identify that the proposed annexation areas are not within a water service purveyor area and that the assumed water purveyor will have to expand their certificated service area, a process through the PUC.

Page III-160: Second paragraph, reliance on the UWMP and the assumption that additional water can be acquired does not provide a reasonable evaluation of adequacy of water resources to meet not only Town demand, but regional cumulative demand. An appropriate independent evaluation of available water resources (imported water plus sustainable annual recharge) should be included in the Final EIR for the water supply analysis to be adequate.

III-178: Suggest describing the nexus between the pre-zone designations, the existing/proposed General Plan land use designations and annexation in this section.

Page III-180: Bottom of page, there appears to be some confusion, the Black Mountain quarry is located northeast of the Town. Also, what specific Cemex operations are located in Annexation 2008-002 area, as most of them look to be northeast of the project site. Please clarify.

Page III-185: Annexation 2008-002, the conclusion regarding land use compatibility for this area is not supported by any reference to maps and the allocated uses, Suggest such references to support the conclusion that future lands uses will be compatible in this annexation area.

Page III-206: The noise discussion for Annexation 2008-001 does not address the I-15 Freeway adjacent to and west of this area. Please augment the data base for this area. Also, for Annexation 2008-002 the proposed mining operation may generate substantial background noise in the future and this noise source should be defined in this section of the document.

Page III-207: Second paragraph, is the 3 dBA change as a threshold also applied to situations where background noise levels are already at or above 65 dBA CNEL? Please clarify.

Page III-220: Top of page, it is not clear, but it appears that the conclusion regarding future noise effects within the Town can be controlled to a less than significant impact level, even where existing significant noise effects exist. Is this correct?

Page III-230: Top of page, the text indicates developer fees being paid for industrial land uses. However, the text on page III-227 indicates fees only on commercial development. Please clarify.

Page III-233: Law Enforcement, Existing Conditions, third paragraph, with the current population what is the current ratio of sworn personnel to residents?

Impacts: With the data available and using estimates is it possible to verify that there will be sufficient funds available in the future to support estimated number of sworn law enforcement personnel? If so, please provide the estimates to verify that the target ratio can be supported.

Page III-235: Impacts, With the data available and using estimates is it possible to verify that there will be sufficient funds available in the future to support estimated number of full-time fire personnel? If so, please provide the estimates to verify that the target ratio can be supported.

Bottom paragraph, should identify that the annexation areas are already within the Apple Valley Fire Protection District's boundary.

Page III-237: First paragraph, should "lands" be "land?"

Page III-238: Impacts, what is DVMC, could not find the term for the acronym?

Page III-239: The conclusion at the bottom of the page regarding adequacy of future electricity supply is vague, probably intentionally. Suggest that the Town consider providing incentives to future developers to exceed State energy conservation standards, up and including a hierarchy of incentives leading up to LEEDs certification for future projects. The same applies to natural gas use.

Page III-242: Top of page, no discussion or estimates of the volume of use of propane within the community or its use in the future is provided in this discussion.

Page III-244: Impacts, second paragraph, although the detailed discussion of water resources is provided in the hydrology section of the Draft EIR, it would be appropriate to include a finding regarding potential significant impact in this section addressing water supply.

Page III-245: Bottom of page, change "parkway" to "Parkway."

As mitigation, suggest addressing the need for expansion of the private purveyors certificated service areas within the annexation areas.

Page III-247: Top of page, based on the text, it is not clear whether the impact forecast includes commercial and industrial wastewater generation as part of the future generation forecast. Also, the need for industrial pretreatment is not addressed in this section of the document. Does the Town presently carry out pretreatment programs? Please clarify.

Second paragraph, it would assist the analysis of future required wastewater services for the proposed annexation areas if a graphic was provided to identify where the Town's existing sewer lines are in relation to these areas.

Page III-248: Existing Conditions, suggest providing a conversion ratio between ton and cubic yards to facilitate moving from one value to another.

Page III-252: The conclusion regarding significance of solid waste generation at buildout was not clear. For example, given the 950,712 tons of waste generated at buildout, a total of 2,604 tons of waste would be generated each day, which equates to about 90% of the current disposal

capacity at the Victorville Landfill. The volume of future waste generation needs to be placed in context of the existing resources to appropriate planning for additional daily capacity can be included in the County's solid waste management planning process.

Introduction or Existing Conditions, suggest identifying that the Town has the obligation to serve outside its corporate boundaries when the Apple Valley Recreation and Park District (AVRPD) was dissolved and the Town was named successor agency in 2001.

Page III-253: Identify that the annexation areas are already served by the Town through its assumption of the AVRPD.

Page III-258: Bear Valley Road, is the term "channelization" correctly used. If so, what does it mean?

Page III-276: Apple Valley Airport, the runway widths and lengths are reversed, either that or these are really short runways! Please correct.

Page III-286 through Page III-306: Traffic Impact Findings, although the data and analysis are summarized in this section, there is no clear conclusion established for roadways, intersections, and adequacy of other circulation system components such as truck routes, bike trails, etc. Please incorporate such findings in the Final EIR.

Page IV-3: The Town may want to consider making a finding that regional water resources and water supply issues are unavoidable significant impacts at this time, based on the fact that future water supply adequacy for the Town and region is based on assumptions of imported water availability that may not be valid and of future access to additional imported water supplies, which are not identified.

Page V-80: First paragraph, line 6, change "no" to "not." An explanation of why the No Project alternative no longer meets project objectives would assist the rationale here.

Page VI-2: Second paragraph, since the project will contribute to cumulative reduction in groundwater, i.e., overdraft, a finding of significant cumulative impact on water resources of the region would appear to be justified. See previous comment, Page IV-3.

Page VII-2: Is the irreversible and irretrievable commitment of resources a significant effect of implementing the preferred General Plan?

Page VIII-7: An interesting issue arises based on the discussion of cumulative impacts which are identified as being significant and adverse. It may be appropriate to include the list of cumulatively considerable adverse impacts resulting from implementing the preferred General Plan in Chapter 4, Unavoidable Significant Impacts.

As noted at the beginning of these comments, many of them are editorial in nature or request additional clarification of the text. For the most part the document provides the information that decision-makers and the interested public require to make an informed decision. A few substantive issues were identified that require additional information to

fully substantiate conclusions, in particular the clarification of annexation and Pre-zoning roles, and groundwater issue and water supply. LAFCO staff and I are available to respond to any questions that you may have and to provide further suggestions to respond to these comments and complete the Final EIR. Do not hesitate to give me a call if I can provide assistance.

Sincerely,

A handwritten signature in black ink that reads "Tom Dodson". The signature is written in a cursive, slightly slanted style.

Tom Dodson

cc: Kathleen Rollings-McDonald, LAFCO



April 7, 2009

Lori Lamson  
Town of Apple Valley  
14955 Dale Evans Parkway  
Apple Valley, CA. 92307  
(760) 240-7000 x7204  
[planning@applevalley.org](mailto:planning@applevalley.org)

RE: Comments by Center for Biological Diversity on Draft Environmental Impact Report for the Town of Apple Valley General Plan Update and Annexations 2008-01 and 2008-02; SCH # 2008091077

Dear Ms. Lamson:

These comments are submitted on behalf of the Center for Biological Diversity (“Center”) on the Draft Environmental Impact Report for the Town of Apple Valley General Plan Update and Annexations 2008-01 and 2008-02 (“the Project”). Under state law, the general plan is the “constitution for all future developments.” *Napa Citizens for Honest Gov’t v. Napa County*, 91 Cal. App. 4th 342, 355 (2001). As the future land-use planning document for the Town, general plan policies and land use determinations have profound implications for global warming. While climate change is a global issue, it will take the efforts of local government to bring about any meaningful improvements to the reduction of greenhouse gas emissions.

The Center is deeply concerned with the EIR’s failure to address the global warming impacts of the Project in a manner consistent with the California Environmental Quality Act (“CEQA”). While the EIR acknowledges the significant impact of the Project’s greenhouse gas emissions, in direct contravention of CEQA, the EIR fails to adopt enforceable and specific measures to mitigate this impact. Similar to the deficiencies in the County of San Bernardino General Plan the Apple Valley General Plan fails to adopt greenhouse gas emissions reductions targets, monitoring programs to track greenhouse gas emissions, mitigation to reduce increasing greenhouse gas emissions, and any analysis of the effects of climate change within the Project Area.

To adequately address the Project’s greenhouse gas impacts, the Town should develop a climate action plan along with the General Plan that sets forth specific measures to reach specified emission reduction targets. An effective climate action plan, which would call for compact “smart growth” development as well as measures requiring energy efficiency, renewable energy and water conservation would not only reduce the Town’s greenhouse gas emissions but provide significant economic benefits. Adoption of an effective climate action plan can also allow projects to tier off the plan, rather than conduct a project-by-project GHG

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analysis as currently required under CEQA. Rather than attempt to skate through the General Plan Update process with a faulty global warming analysis, the Center urges the Town to seize the opportunity to develop a forward-thinking plan for future growth.

In addition, the EIR's analysis of the Project's impacts to biological impacts and water supply is also fundamentally flawed. A revised EIR must be developed to remedy these deficiencies and recirculated for public review.

The Center is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center's Climate Law Institute works to reduce greenhouse gas emissions to protect biological diversity, our environment, and public health. We work to educate the public about the impacts of climate change on our world and to build the political will to enact solutions. The Center has over 200,000 members & e-activists including those located in the Apple Valley area.

## **I. THE EIR'S PROJECT DESCRIPTION IS INADEQUATE**

An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR. *County of Inyo v. City of Los Angeles*, 71 Cal.App.3d 185, 192-93 (1977). The EIR's project description is wholly inadequate as it does not indicate the time frame for the future development contemplated under the general plan or the expected growth the general plan update is expected to accommodate. Instead, the Project seems to contemplate growth for an unspecified time scale that is entirely unconnected to the projected growth the Town is expected to experience. Absent this information, it is impossible to assess the need for the land-use changes proposed in the General Plan update or to meaningfully examine alternatives. Moreover, the EIR's failure to project housing needs for a specific period of time also violates General Plan Housing Element requirements. Gov't Code § 65583.

## **II. THE EIR FAILS TO ADEQUATELY ADDRESS THE PROJECT'S GREENHOUSE GAS IMPACTS**

Curbing greenhouse gas emissions to limit the effects of climate change is one of the most urgent challenges of our time. Climate change will continue to cause significant impacts to our environment, natural resources, public services, communities, and public health. Leadership by local governments in improving land use patterns and reducing greenhouse gases is a key component in solving the climate crisis. Supporting smart growth style compact development is one of the most important ways to achieve substantial reductions in greenhouse gas emissions. (Urban Land Institute 2008). Addressing climate change through local planning documents also provides other long term benefits to the local planning agency. Smart growth policies that discourage sprawl not only reduce greenhouse gas emissions but also reduce the cost of public services (Carruthers 2007), improve public health (Public Health Law and Policy 2008), allow for streamlining of future environmental review through the method of tiering to a Program EIR (CEQA Guidelines §§ 15064(h)(3), 15152), and facilitate compliance with state greenhouse gas reduction requirements under The Global Warming Solutions Act (AB32) and Executive Order S-03-05. Proper land use planning offers a potent weapon against global warming. Accordingly,

the California Air Resources Board has accurately called local governments “essential partners” in implementing AB 32.<sup>1</sup>

Fortunately, CEQA sets forth a clear and mandatory process to address the greenhouse gas and global warming impacts from a general plan update. As a potentially significant impact, the EIR must thoroughly evaluate alternatives and mitigation measures that would reduce greenhouse gas emissions. However, as proposed, the Project fails to adopt any meaningful measures to reduce the Project’s greenhouse gas impacts. To comply with CEQA, the Project must adopt all feasible measures and alternatives to mitigate the greenhouse gas impacts of the Project.

**A. The EIR Fails to Adequately Set Forth The Threat of Greenhouse Gas Pollution and Global Warming**

The EIR should discuss the grave threats posed by global warming to California and the world. In particular, the EIR should disclose the significant negative environmental impacts that will result from global warming in California, including the Project area. As a significant environmental effect, CEQA requires the City to “use its best efforts to find out and disclose all that it reasonably can” to properly evaluate the impacts of the Project’s greenhouse gas emissions. Guidelines §15144. By providing details as to the ranges of proposed impacts, and indicating that the higher-range of impact estimates are projected if greenhouse gas emissions continue to increase under a “business as usual” scenario, decision-makers and the public will be better informed of the magnitude of the climate crisis and the urgency with which it must be addressed.

Climate change poses enormous risks to California. Scientific literature on the impact of greenhouse gas emissions on California is well developed. The California Climate Change Center (“CCCC”) has evaluated the present and future impacts of climate change to California and the project area in research sponsored by the California Energy Commission and the California Environmental Protection Agency (Cayan et al. 2007). Some of the types of impacts to California and estimated ranges of severity – in large part dependent on the extent to which emissions are reduced – are summarized as follows:

- A 30 to 90 percent reduction of the Sierra snowpack during the next 100 years, including earlier melting and runoff.
- An increase in water temperatures at least commensurate with the increase in air temperatures.
- A 6 to 30 inch rise in sea level, before increased melt rates from the dynamical properties of ice-sheet melting are taken into account.
- An increase in the intensity of storms, the amount of precipitation and the proportion of precipitation as rain versus snow.
- Profound impacts to ecosystem and species, including changes in the timing of life events, shifts in range, and community abundance shifts. Depending on the timing

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<sup>1</sup> CARB, Climate Change Proposed Scoping Plan (Oct. 2008) 26-27.

- and interaction of these impacts, they can be catastrophic.
- A 200 to 400 percent increase in the number of heat wave days in major urban centers.
  - An increase in the number of days meteorologically conducive to ozone (O<sub>3</sub>) formation.
  - A 55 percent increase in the expected risk of wildfires (Cayan et al. 2007).

Because the severity of the impacts facing California is directly tied to atmospheric concentrations of greenhouse gases, the CCCC Report aptly notes that:

Because most global warming emissions remain in the atmosphere for decades or centuries, the choices we make today will greatly influence the climate our children and grandchildren inherit. The quality of life they experience will depend on if and how rapidly California and the rest of the world reduce greenhouse gas emissions

(Cayan et al. 2007). If we are to avoid saddling future generations of Californians with extreme economic and environmental hardships, it is critical that local governments like the Town of Apple Valley do their part today to reduce greenhouse gas emissions.

The EIR should also include a brief discussion of other laws to address climate change, including California's mandate to reduce emissions to 1990 levels by 2020 under AB 32 and goal of further reducing emissions to 80% below 1990 levels by 2050 under Executive Order S-03-05. Achievement of state mandated emissions reductions will be severely impeded if agencies across the state continue to approve *new* projects without incorporating measures to reduce these added emissions.

## **B. The EIR Fails to Describe Existing Conditions**

CEQA requires that an EIR "include a description of the physical environmental conditions." Guidelines § 15125. Part of this description must include baseline greenhouse gas emissions. Rather than provide this data, the EIR only attempts to account for emissions at build-out. The EIR must be revised to include baseline emissions data so that the impacts of the Project can be properly assessed.

## **C. EIR Fails to Include a Complete and Coherent Inventory of the Emissions Resulting from the Project's Greenhouse Gas Emissions**

The EIR makes an initial, yet incomplete, first step in the disclosure of the Project's greenhouse gas emissions. The EIR relies upon reporting methodology developed by the California Climate Action Registry ("CCAR") that only addresses three sources of greenhouse gas emissions: indirect electricity use, natural gas, and moving sources (passenger cars and light duty trucks). DEIR at App. H, Greenhouse Gas Tables. Unfortunately, this inventory and analysis fall short of OPR's minimum requirements for greenhouse gas emissions. In order to perform a "good faith analysis" as required under CEQA a greenhouse gas emissions inventory

must include emissions associated with “vehicular traffic, energy consumption, water usage and construction activities.” (California OPR 2008a; California Attorney General 2009).

Methodologies are readily available to inventory the emissions from the proposed project. The California Office of Planning and Research (“OPR”) has released technical guidance on the preferred approach for analyzing greenhouse gas emissions and climate change entitled “Technical Advisory, CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review” (California OPR 2008a). OPR also provides references to methodologies to quantify greenhouse gas emissions. (California OPR 2008a, Attachment 2). As OPR has clearly stated “Lead agencies should make a good-faith effort, based on available information, to calculate, model, or estimate the amount of CO<sub>2</sub> and other GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities.” (California OPR 2008a). In its white paper, CEQA & Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act (Jan. 2008), the California Air Pollution Control Officers Association (CAPCOA) also sets forth methodologies for analyzing greenhouse gas pollution. (CAPCOA 2008). In addition to the methodologies set forth by CAPCOA and OPR, ICLEI’s Clean Air/Climate Protection (CACCP) software allows cities to calculate emissions reductions, track and quantify emission outputs, and develop emissions scenarios to inform the planning process.<sup>2</sup> ICLEI also provides technical assistance and training to local government using the CACP software. Accordingly, there is no legitimate excuse for the EIR’s failure to provide a coherent and complete accounting of the emissions resulting from the Project.

The greenhouse gas inventory in the EIR completely omits emissions associated with water usage and construction activities. The EIR contains no explanation for the omission of water usage. The EIR attempts to justify the omission of construction related emissions because it “is beyond the scope of this EIR” asserting that more information regarding development plans is necessary to analyze this issue. (DEIR at III-22 to 23). This is patently false. As discussed above methodologies exist to perform this quantification. Other jurisdictions performing a greenhouse gas inventory for General Plan EIRs have provided this analysis. (Solano County Draft General Plan EIR 2008). Additionally, there is no explanation as to why heavy truck emissions associated with diesel exhaust are not included in the moving sources category. (DEIR App. H). Without the complete inventory the EIR cannot adequately inform the public and decision-makers about the Project’s impacts prior to approval of the project. Similarly, without a complete inventory and analysis of greenhouse gas emissions that will result from the project, there is simply no way that the EIR can then adequately discuss alternatives, avoidance, and mitigation measures to reduce those impacts. *See* Pub. Res. Code § 21061.

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<sup>2</sup> ICLEI’s Clean Air/Climate Protection software is available at <http://www.cacpsoftware.org/> ICLEI-Local Governments for Sustainability is an international association of more than 650 local governments. Cities, counties, towns and villages around the world are members of ICLEI. ICLEI’s mission is to improve the global environment through local action. On the issue of global warming, for example, ICLEI provides resources, tools, peer networking, best practices, and technical assistance to help local governments measure and reduce greenhouse gas emissions in their communities.

Finally, the greenhouse gas analysis fails to provide the Project's information in a coherent manner that adequately informs decision makers and the public of environmental impacts. CEQA requires that information "be presented in a manner calculated to adequately inform the public and decision makers, who may not be previously familiar with the details of the project." *Vineyard Area Citizens*, 40 Cal.4th at 442. The EIR fails to meet this threshold. The greenhouse gas analysis is broken into several pieces including the Proposed Project and related Annexations. It is unclear whether the analysis includes the total emissions associated with the general plan update and the Project annexation, or whether the greenhouse gas emissions have been improperly segmented into piecemeal parts. Also, it is unclear what assumptions are used in the greenhouse gas emissions to count towards the different project categories. For example, what is the assumed mileage per trip, how many trips are made per development type, what type of energy use is assumed for the project and is it appropriate to the high desert environment, and what type of natural gas usage is assumed per household or business residence.

#### **D. The EIR's Significance Determination is Flawed**

##### **1. The EIR Fails to Properly Frame the Question of the Significance of the Project's Greenhouse Gas Impacts**

As the DEIR properly recognizes, the greenhouse gas emissions generated by the Project constitute a significant cumulative impact. (DEIR at III-29). However, the DEIR improperly limits the consideration of its determination of significance to whether "the project interferes with the goals of AB 32." (DEIR at III-11). While the emission reduction targets set by AB 32 are important, they are only a first interim step toward a longer emission reduction pathway necessary to avoiding dangerous anthropogenic interference (DAI) with the climate system. While Project impacts remain significant, the significance criteria should be revised to recognize California's long term emission targets set by Executive Order S-3-05 and consider the extent to which these reductions are consistent with the emission reduction pathway necessary to avoid DAI.

The relevant environmental objective with regard to a project's impact on global warming is stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference ("DAI") with the climate system. Framing the objective of a threshold of significance in the context of preventing DAI with the climate system is consistent with the policy of CEQA. As set forth in Public Resources Code Section 21000(d), "The capacity of the environment is limited, and it is the intent of the Legislature that the government of the state take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached." With regard to climate change, the prevention of DAI is the critical threshold to protect the health and safety of the people of California. The prevention of DAI with the climate is also the objective adopted by the international community. As set forth in the United Nations Framework Convention on Climate Change, to which the United States is a party: "The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of

the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”<sup>3</sup>

Dangerous anthropogenic interference with the climate system is a defined concept from which a threshold of significance under CEQA can be derived. While environmental impacts from global warming are already being experienced, dangerous anthropogenic interference has typically been defined at temperature increases above 2°C from pre-industrial levels, or a 450 ppm atmospheric concentration of CO<sub>2</sub> eq.(Union of Concerned Scientists 2007). 2050 is the time frame commonly set by scientists in which to achieve the emission reductions necessary for climate stabilization. The emission reduction scenario set by AB 32 and Executive Order S-3-05, whereby emissions are reduced to 1990 levels by 2020 and then to 80% below 1990 levels by 2050, is consistent with a stabilization scenario in the +/- 450 ppm range.<sup>4</sup>

However, climate scientists, including NASA’s premier climatologist, James Hansen, are increasingly calling for more stringent stabilization targets in order to sufficiently reduce the risk of catastrophic outcomes. The best available scientific evidence now indicates that a 2°C temperature increase from pre-industrial levels is well past the point where severe and irreversible impacts will occur. It is now estimated that a mean global temperature increase of 1.5°C above pre-industrial levels has the potential to trigger irreversible melting of the Greenland ice sheet, a process that would result in an eventual 7m sea level rise over and above that caused by thermal expansion of the oceans, and potentially causing an additional sea level rise of 0.75m as soon as 2100. (Warren 2006 at 95). Specific consequences of a 2°C temperature rise from pre-industrial levels include the loss of 97% of the world’s coral reefs and the transformation of 16% of global ecosystems. Approximately one to three billion people would experience an increase in water stress, sea level rise and cyclones would displace millions from the world’s coastlines and agricultural yields would fall in the developed world. (Warren 2006). In the Arctic, ecosystem disruption is predicted owing to complete loss of summer sea ice, with only 42% of the tundra remaining stable. This would destroy the Inuit hunting culture and cause the extinction of the polar bear and large losses in global populations of birds. Moreover, because Arctic ice functions to reflect heat back into the atmosphere, its loss would allow more sunlight to heat the Arctic Ocean and further accelerate the buildup heat and the melting of the Greenland ice sheet. In the Antarctic, key marine mollusks are predicted to become extinct with damaging ramifications for the rest of the Antarctic marine ecosystem. (Warren 2006). As the devastating and irreversible impacts resulting from a 2°C mean global temperature rise are far in excess of any reasonable definition of “dangerous” interference with the climate, a 2°C target is not an acceptable objective for climate policy.

Moreover, equating a particular atmospheric concentration of greenhouse gases with a specific temperature increase involves a significant degree of uncertainty. This is because

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3 United Nations Framework Convention on Climate Change (UNFCCC), art. 2, May 9, 1992, *available at* [http://unfccc.int/essential\\_background/convention/background/items/1349.php](http://unfccc.int/essential_background/convention/background/items/1349.php).

4 While the emission reduction targets embodied in AB 32 and Executive Order S-3-05 can inform a determination of significance thresholds, this is because they reflect scientific data on needed emissions reductions. Under CEQA, regulatory standards can serve as proxies for significance only to the extent that they accurately reflect the level at which an impact can be said to be less than significant. *See, e.g., Protect the Historic Amador Waterways v. Amador Water Agency*, 116 Cal. App. 4th 1099, 1109 (2004).

climate sensitivity – the extent to which temperatures will rise as a result of increasing concentrations of heat-trapping gases – depends on Earth’s response to certain physical processes that are not fully understood. (Cayan 2007 at 4). For example, as greenhouse gas emissions cause temperatures to rise, the atmosphere can hold more water vapor, which traps heat and raises temperatures further – a positive feedback. Clouds created by this water vapor could absorb and re-radiate outgoing infrared radiation from Earth’s surface (another positive feedback) or reflect more incoming shortwave radiation from the sun before it reaches Earth’s surface (a negative feedback). (Cayan 2007). Thus, due to uncertainty in climate sensitivity, scientists estimate that the mean probability of exceeding 2°C where stabilizing greenhouse gases at a CO<sub>2</sub>eq level of 450 ppm is 54% with a 30% probability that global average temperature would rise more than 3°C. (Cayan 2007; Union of Concerned Scientists 2007). This is effectively the equivalent of flipping a coin in the hopes that our children and grandchildren will not be confronted with the displacement of millions of people due to sea level rise, irreversible loss of entire ecosystems, and the triggering of multiple climatic “tipping points” wherein climate change begins to feed on itself and spin rapidly out of control.

As noted by the Attorney General in a recent guidance on the treatment of climate change in general plans, “the targets set by AB 32 and Executive Order S-3-05 can inform the CEQA analysis.” (California Attorney General 2009 at 4). However, while the emission reduction targets embodied in AB 32 and Executive Order S-3-05 can inform a determination of significance thresholds, this is because they reflect scientific data on needed emissions reductions. *See* Guidelines § 15064(b) (“[t]he determination of whether a project may have a significant effect on the environment calls for careful judgment ... based to the extent possible on scientific and factual data.”). Under CEQA, regulatory standards can serve as proxies for significance only to the extent that they accurately reflect the level at which an impact can be said to be less than significant. *See, e.g., Protect the Historic Amador Waterways v. Amador Water Agency*, 116 Cal. App. 4th 1099, 1109 (2004). Thus, to properly address the question of the significance of Project impacts, the EIR should set forth the environmental objective of stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent DAI with the climate system, discuss California’s emission reduction targets and the extent to which these targets are sufficient to meet avoid DAI. In this manner, the EIR will set forth the issues related to the significance of Project impacts in a manner that accurately informs decision makers and the public.

**2. To Properly Evaluate Significance and Fulfill Its Informational Mandate, the EIR Must Compare Project Emissions with Emission Reduction Targets Set by AB 32 and Executive Order S-3-05**

Although the EIR asserts that the Project would interfere with the goals of AB 32, the EIR fails to provide any data on Project emissions as compared with 1990 levels. Accordingly, it is impossible to analyze the extent to which the Project exceeds AB 32 emission reduction mandates. The EIR must be revised to provide this data.

Moreover, in a failure to adequately describe the Project, the EIR fails to note the year for which the Project envisions build-out. Should the General Plan update contemplate growth past

2020, its significance analysis should evaluate the extent to which the Project complies with Executive Order targets. While the trajectory of reductions under Executive Order S-3-05 has not been definitely established, the EIR should make an appropriate assumption, such as a linear decrease to 2050 to determine significance criteria for the undisclosed year of build-out. Thus, if the General Plan is intended to accommodate growth until 2030, than the EIR could compare Project emissions with emissions approximately 27% below 1990 levels.

The EIR further omits any discussion of regional Greenhouse Gas Emissions Reduction Plans such as that being implemented by the County of San Bernardino. (County of San Bernardino 2007). The County of San Bernardino has entered into a settlement agreement with the Attorney General's office to develop a greenhouse gas emissions reporting protocol of past, present, and future emissions of greenhouse gases. Furthermore, the County has committed to implementing feasible greenhouse gas emissions reduction programs once the emissions modeling has occurred.

#### **E. The EIR Fails to Adopt All Feasible Mitigation Measures to Reduce the Project's Greenhouse Gas Emissions**

The EIR's non-committal efforts to reduce the greenhouse gas emissions resulting from the Project are wholly inadequate. As an initial matter, the failure to provide data on existing emission levels and 1990 emissions makes it impossible to assess the extent to which the Project would deviate from state emission reduction targets. Second, purported "Climate Change and GHG Reduction Measures" are riddled with unenforceable, aspirational goals that only require the mitigation measures to "encourage", "promote" or "consider" reduction measures. (DEIR at III-39 to III-40). Furthermore, the Mitigation Monitoring/Reporting Program contains no enforcement or monitoring mechanisms for global warming. (DEIR at III-41). The Apple Valley General Plan does not even attempt to establish greenhouse gas emissions reduction targets and a plan to achieve those targets. The Town's Program 1.A.1, (Draft General Plan at III-77), to comply with future regulations does not meet the standards required by CEQA.

CEQA is clear that an "EIR must propose and describe mitigation measures that will minimize the significant environmental effects that the EIR has identified." *Napa Citizens for Honest Gov't v. Napa County Bd. of Supervisors*, 91 Cal.App.4th 342, 360 (2001). CEQA requires that agencies "mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so." Pub. Res. Code § 21002.1(b). Mitigation of a project's significant impacts is one of the "most important" functions of CEQA. *Sierra Club v. Gilroy City Council*, 222 Cal.App.3d 30, 41 (1990). Therefore, it is the "policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures which will avoid or substantially lessen the significant environmental effects of such projects." Pub. Res. Code § 21002.

Mitigation measures must be "fully enforceable through permit conditions, agreements, or other measures" so "that feasible mitigation measures will actually be implemented as a condition of development." *Federation of Hillside & Canyon Ass'ns v. City of Los Angeles*, 83 Cal.App.4th 1252, 1261 (2000). When mitigation measures are incorporated into a plan, the

agency must take steps to ensure that they will actually be implemented as a condition of later development approved under the plan, “not merely adopted and then neglected or disregarded.” *Federation of Hillside Canyon & Canyon Ass’ns v. City of Los Angeles*, 83 Cal.App.4th 1252 (2000). For mitigation measures that cannot be specifically formulated without a proposal for a specific facility, the general plan should include a firm commitment to future mitigation of significant impacts. *Rio Vista Farm Bureau Ctr. v. County of Solano*, 5 Cal.App.4th 351 (1992). Furthermore, impermissibly deferring the formulation of mitigation measures to address global warming without specific performance criteria runs afoul of CEQA. *Sierra Club v. City of Tulare et. al.*, Case No. 08-228122 (March 16, 2009), citing *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670.

CEQA’s minimal standards for enforceable and specific mitigation measures apply with equal force to the treatment of GHGs in general plans. As set forth by the Attorney General in “Climate Change, the California Environmental Quality Act, and General Plan Updates: Straightforward Answers to Some Frequently Asked Questions, California Attorney General’s Office,” “[w]hile a menu of hortatory GHG policies is positive, it does not count as adequate mitigation because there is no certainty that the policies will be implemented.” (California Attorney General 2009 at 5). Thus, in *Sierra Club v. City of Tulare et al.* Case No. 08-228122 (March 16, 2009), the trial court struck down a general plan EIR that attempted to mitigate GHG emissions merely through an a non-binding intention to develop a climate action plan that would “set a target for the reduction of emissions attributable to the City’s discretionary land use decisions and its own government operations” because the mitigation impermissibly deferred the formulation of the measure and did not include any specific performance criteria.

To mitigate the Project’s greenhouse gas impacts, the Attorney General recommends the development of a Climate Action Plan that would “include the following elements: an emissions inventory (to assist in developing appropriate emission targets and mitigation measures); emission targets that apply reasonable intervals through the life on the plan; enforceable GHG control measures; monitoring and reporting (to ensure that targets are met); and mechanisms to allow for the revision of the plan, if necessary, to stay on target.” (California Attorney General 2009 at 6). Importantly, the Climate Action Plan should be prepared “*at the same time* as [the] general plan update and EIR.” (Id. (emphasis added)). Were the Climate Action Plan to be developed after general plan approval, land uses would be locked in that could frustrate attainment of emission reduction objectives. The time to consider sustainable, low-carbon growth is when the General Plan is developed, not after.

Fortunately, many local cities and counties have adopted Climate Action Plans or Greenhouse Gas Emissions Reduction Plans that can provide valuable information to inform the Town of Apple Valley’s Climate Action Plan. (California OPR 2008b). There are any number of feasible measures that can be incorporated into a Climate Action Plan to reduce vehicle miles traveled, energy use, waste, water consumption and other sources of emissions. The California Air Pollution Control Officer’s Association (CAPCOA) White Paper on CEQA and Climate Change identifies existing and potential mitigation measures that could be applied to projects during the CEQA process to reduce a project’s GHG emissions. (CAPCOA 2008 at Appendix B). The California Office of the Attorney General also has developed a list of reduction

mechanisms to be incorporated through the CEQA process. (California Office of the Attorney General 2008b). These resources provide a rich and varied array of mitigation measures to be incorporated in both the programmatic and project level. Furthermore, substantial federal funding is available to implement these projects so that implementation of greenhouse gas mitigation measures is economically feasible.<sup>5</sup> Because CEQA requires the adoption of all feasible mitigation measures to reduce significant impacts like climate change the Project must adopt all feasible mitigation measures to reduce GHGs or provide substantial evidence as to why the mitigation measures are infeasible. Pub. Res. Code § 21081(a)(3).

A sample of the many feasible measures for the Town to consider are set forth below.

## **1. Land Use**

As noted by CAPCOA, “[t]he most effective way for local jurisdictions to achieve GHG emissions reductions in the medium- and long-term is through land use and transportation policies that are built directly into the community planning document.” (CAPCOA 2008 at 69). Committing to smart growth is one of the most important mechanisms that can be pursued in developing the General Plan. Indeed, land use planning and design that reduces commuting requirements and the length and number of vehicle trips is *essential* to reducing the greenhouse gas contribution from the transportation sector. The Urban Land Institute describes needed transportation-related CO<sub>2</sub> emissions reductions as a three-legged stool, with one leg related to vehicle fuel efficiency, a second to the carbon content of the fuel itself, and a third to the amount of driving or vehicle miles traveled (VMT). (Urban Land Institute 2008). Since 1990, the number of miles Americans drive has grown three times faster than the U.S. population. (Urban Land Institute 2008). A large share of the increase in VMTs can be traced to the effects of a changing urban environment, namely to longer trips and people driving alone. (Urban Land Institute 2008). Population growth has been responsible for only a quarter of the increase in vehicle miles traveled because of the robust growth in VMTs.

Growth that focuses on compact development and community planning is known by a number of different names, such as “smart growth,” “new urbanism,” “walkable communities,” and “transit-oriented developments.” (Urban Land Institute 2008). These developments do away with single-use subdivisions and office parks, and instead mix shops, schools, offices and homes, and incorporate non-motorized and mass transit. (Urban Land Institute 2008). Compact, transit accessible, pedestrian-oriented, mixed-use development patterns and land reuse epitomize the application of the principles of smart growth. (American Planning Association 2002). Residents of such compact, mixed use developments drive significantly less than those who live in more sprawling areas. Overall, evidence shows that compact development will reduce the need to drive between 20 and 40 percent, as compared with sprawling, single-use development. (American Planning Association 2002).

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<sup>5</sup> Energy Efficiency and Conservation Block Grants are offered by the U.S. Department of Energy to municipalities in order to meet the following purposes: reduce fossil fuel emissions in a manner that is environmentally sustainable and, to the maximum extent practicable, maximizes benefits for local and regional communities; reduce the total energy use of the eligible entities; and improve energy efficiency in the building sector, the transportation sector, and other appropriate sectors. (US DOE 2009). See <http://www.eecbg.energy.gov/>

Example of mitigation that address emissions from land-use include:

- Increasing the density and intensity of land use as a means of reducing per capita VMT by increasing pedestrian activities, bicycle usage, and public or private transit usage. Increased density in infill areas can reduce sprawl and leave more land for open space on the outskirts of town.
- Requiring a minimum number of units to be located in downtown area (Stockton General Plan Settlement 2008)
- Providing incentives to promote infill development in downtown area, including but not limited to, reduced impact fees, less restrictive height limits, less restrictive setback requirements, less restrictive parking requirements, subsidies, and streamlined permitting process (Stockton General Plan Settlement 2008)
- Ensuring that development on outskirts of Town does not grow in a manner that is out of balance with development of infill. Possible measures to effectuate this objective are set forth in the City of Stockton settlement agreement. (Stockton General Plan Settlement 2008)
- Promoting mixing land uses, another key component of smart growth and liveable communities.
  - Establish mixed-use land use categories that will encourage mixed commercial/residential neighborhoods such as:
    - General commercial/mixed use that will allow a wide variety of commercial uses, including retail and service businesses, professional offices and restaurants in conjunction with mixed-use residential development;
    - Office commercial/mixed use that will encourage a mixture of professional, administrative and medical office uses, in conjunction with mixed-use residential;
    - Neighborhood commercial/mixed use that will permit smaller-scale retail and neighborhood-serving office and service uses in conjunction with residential development oriented toward pedestrians and located in close proximity to residential neighborhoods.
- Locate mixed-use, medium to higher density development in appropriate locations along transit corridors. Identify transit nodes appropriate for mixed-use development, and promote transit-oriented development through means including:

- rezoning of commercial properties to residential and/or mixed use;
- expanded zoning for multifamily housing;
- flexible parking and building height limitations;
- density bonus programs;
- design guidelines for private and public spaces;
- incentives for redevelopment of underutilized areas, such as surface parking lots;
- encourage more mixed uses, and enable prototype structures for use in neighborhood center zones that can be adapted to new uses over time;
- allow mixed use in commercial districts.

## **2. Green Building/Energy Conservation**

Buildings create environmental impacts throughout their lifecycle, from the construction phase to their actual use to their eventual destruction. (Commission for Environmental Cooperation 2008). In the United States, buildings account for 40 percent of total energy use, 68 percent of total electricity consumption, and 60 percent of total non-industrial waste. (Commission for Environmental Cooperation 2008). Buildings also significantly contribute to the release of greenhouse gases. In the U.S. they account for 38 percent of total carbon dioxide emissions. (Commission for Environmental Cooperation 2008). More specifically, residential buildings cause up to 1,210 megatons of carbon dioxide, while commercial buildings create approximately 1,020 megatons. (Commission for Environmental Cooperation 2008). This is because buildings require a lot of energy for their day to day operations. Most of the coal-fired power plants – one of the biggest sources of greenhouse gas emissions – slated for development in the United States will supply buildings with the energy they need. In fact, 76 percent of the energy these plants produce will go to operating buildings in the U.S. (Commission for Environmental Cooperation 2008).

Using green building techniques, however, can substantially reduce buildings' influence in increasing greenhouse gas emissions. Green buildings help reduce the amount of energy used to light, heat, cool and operate buildings and substitute carbon-based energy sources with alternatives that do not result in greenhouse gas emissions. Currently green buildings can reduce energy by 30 percent or more, carbon emissions by 35 percent and water use by 30 to 50 percent. (Commission for Environmental Cooperation 2008). The IPCC determined that “there is a global potential to reduce approximately 29 percent of the projected baseline emissions by 2020 cost-effectively in the residential and commercial sectors, the highest among all sectors.” (IPCC, 2007e). The technologies available for green building are already in wide-use and include “passive solar design, high-efficiency lighting and appliances, highly efficient ventilation and cooling systems, solar water heaters, insulation materials and techniques, high-reflectivity building materials and multiple glazing.” (IPCC, 2007e).

Additionally, the U.S. Green Building Council (USGBC), a private, nonprofit corporation, has established a nationwide green building rating system, called Leadership in

Energy and Environmental Design (LEED). The LEED standard supports and certifies successful green building design, construction and operations. It is one of the most widely used and recognized systems, and to obtain LEED certification from the USGBC, project architects must verify in writing that design elements meet established LEED goals. Under the LEED system, projects can obtain points for achieving certain environmental and efficiency standards. The average LEED Certified building uses 32 percent less electricity and saves 350 metric tons of carbon dioxide emissions annually. (Riker, Jonathan 2008)

Measures to incorporate into the General Plan/Climate Action Plan can include:

- requiring that all new public buildings meet a minimum LEED silver standard (*See Alameda County Administrative Code Chapter 4.38, requiring all new County projects meet a minimum LEED Silver rating*);
- requiring that new residential and commercial development, as well as major remodels of homes and businesses, meet green building standards and are LEED certified and that all new buildings exceed Title 24 energy standards by 25 percent (*See Town of Windsor Building and Housing Code Article 13, establishing green building standards and ratings for commercial and residential buildings*);
- requiring building projects to recycle or reuse a minimum of 50 percent of unused or leftover building materials (Alameda County Administrative Code § 4.38.030);
- offering incentives to encourage green building standards and discourage business as usual construction;
- providing information, marketing, training and education to support green building;
- requiring energy efficiency and water conservation upgrades to existing residential and non-residential buildings at the time of sale, remodel, or additions. Berkeley's Residential Energy Conservation Ordinance (RECO) is an example of such a measure. (Berkeley's RECO, Berkeley Municipal Code Chapter 19.16.) Under this ordinance, Berkeley establishes ten energy or water conservation measures that residential structures must incorporate. These include measures such as installing ceiling insulation, certain water efficiency technologies to shower fixtures and sink faucets and weatherstripping on all exterior doors. Berkeley Municipal Code Chapter § 19.16.050(B). The ordinance requires the seller to certify that some of these measures have been met prior to the sale or exchange of any residential structure or unit. Berkeley Municipal Code Chapter § 19.16.050(A). Similarly, Berkeley's Commercial Buildings – Energy Conservation Measures requires commercial building owners to conduct an energy audit of their building prior to the sale or major renovation of the building and that they have installed energy conservation measures, regarding heating,

cooling, water, and lighting systems, among others. Berkeley Municipal Code Chapter §19.72.

- requiring new residential construction to meet specific energy efficiency standards that go beyond those mandated by California law. For example, the City of Rohnert Park recently enacted an ordinance establishing minimum energy efficiency standards for all new low-rise residential construction of any size, low-rise residential additions over a specific size threshold and all residential and non-residential swimming pools and water features. City of Rohnert Park Municipal Code Chapter 14 at § 14.01.010. The ordinance requires residential buildings to include Energy Star appliances and that new and expanded residential structures meet specific energy use standards City of Rohnert Park Municipal Code Chapter 14 at §§ 14.02.050(A); 14.02.060;
- requiring that all new buildings be constructed to allow for future installation of solar energy systems. In its Community Greenhouse Gas Reduction Plan, the City of Arcata recommended that it adopt such requirements. City of Arcata, Community Greenhouse Gas Reduction Plan (Aug. 2006). Additionally, Chula Vista's Energy Conservation Regulations mandate that all new residential units include plumbing specifically designed to allow later installation of systems that will rely on solar energy as the primary method of heating domestic potable water Chula Vista Municipal Code § 20.04.030;
- adopting and implementing a Heat Island Mitigation Plan that requires new residential buildings to have "cool roofs" with the highest commercially available solar reflectance and thermal emittance and adopt a program of building permit enforcement for re-roofing to ensure compliance with existing state building code "cool roof" requirements for non-residential buildings. Research shows that "cool roofs" can reduce air-conditioning energy use between 10 and 50 percent (Akbari 2000);
- integrating renewable energy requirements into development and building standards, such as requiring onsite solar generation of electricity in new retail/commercial buildings and parking lots/garages (solar carports);
- adopting a resolution or ordinance that will require sources of renewable energy, such as installing solar photovoltaic systems to generate electricity for public buildings and operations<sup>6</sup>; using methane to generate electricity at the wastewater treatment plants; and installing combined heat and power systems.

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<sup>6</sup> Under the California Solar Initiative, the California Public Utilities Commission offers different incentives to government agencies, as well as private businesses and residents, for installing certain types of solar power systems. See California Public Utilities Commission, California Solar Initiative Program Handbook (Jan. 2008), available at <http://www.cpuc.ca.gov/puc/energy/solar/> (last visited April 7, 2008).

- requiring new residential developments to participate in the California Energy Commission's New Solar Homes Partnership and include onsite solar photovoltaic systems in at least 50% of the residential units (see <http://www.gosolarcalifornia.ca.gov/nshp/index.html>; *See also* California Public Utilities Commission, New Solar Homes Partnership Guidebook, Second Edition (July 2007);
- using Geographical Information Systems (GIS) to map and assess local renewable resources, the electric and gas transmission and distribution system, community growth areas anticipated to require new energy services, and other data useful to deployment of renewable technologies;
- identifying possible sites for production of energy using local renewable resources such as solar, wind, small hydro, biogas, and tidal and evaluating potential land use, environmental, economic, and other constraints affecting their development, and adopting measures to protect those resources, such as utility easements, rights-of-way, and land set-asides;
- providing information, marketing, training and education to support renewable resource use.

### **3. Waste Reduction**

The General Plan and EIR should address the significant unmitigable impacts to greenhouse gas emissions from the Lead Agency's waste practices. Decomposing organic waste emits carbon dioxide and methane, two major greenhouse gases. In fact, methane is the most important of the non-CO<sub>2</sub> pollutants, with a global warming potential 21 times greater than carbon dioxide, and an atmospheric lifetime of 12 years. (Forster and Ramaswamy 2007). Methane constitutes approximately 20% of the anthropogenic greenhouse effect globally, the largest contribution of the non-CO<sub>2</sub> gases. Municipal solid waste landfills are the largest source of human-related methane emissions in the United States, accounting for about 25 percent of these emissions in 2004. Thus, waste reduction and recycling can significantly reduce and eliminate global warming pollution by reducing landfill methane emissions. Additionally, reducing waste and reusing materials can also reduce greenhouse gas emissions by reducing transportation-related emissions and add to overall energy savings by reusing items that would otherwise be manufactured. (ICLEI, U.S. Mayor's Climate Protection Agreement Climate Action Handbook at 16).

Policies to reduce solid waste production must be amended to eventually achieve zero waste. California communities that have already adopted zero waste goals include Del Norte County, San Luis Obispo County, Santa Cruz County and San Francisco. (Global Recycling Council). Other communities that have committed to reducing their waste by more than fifty percent include Alameda County (75 %) and the City of Los Angeles (75%). (Global Recycling Council). Furthermore, implementation measures for its policies concerning solid waste

reduction and use of recycled materials must be adopted. Actions the Lead Agency can take to meet this goal and achieve its policies, include:

- implementing an environmentally preferred purchasing program which could include giving bid preferences to contractors and suppliers that meet established sustainability criteria. This is a policy several cities and counties are either considering or currently implementing (City of Sacramento 2007 at 12; City of Sacramento 2008 at 4);
- establishing a program and system for reuse or recycling of construction and demolition materials for government and non-governmental construction projects;
- requiring recycling in all government buildings and public schools;
- implementing an organics and yard debris collection and composting program;
- employing best management practices at landfill facilities and incorporating effective new practices as they become available;
- pursuing aggressive recycling, resource recovery and composting strategies throughout to divert waste from landfills;
- adopting policies and economic incentives and garbage rate structures so that recycling, reusing and composting is cheaper than throwing out or incinerating waste;

#### **4. Water Conservation**

- requiring new construction or users to offset demand so that there is no net increase in demand;
- using reclaimed water for landscape irrigation in new developments and on public property and installing the infrastructure to deliver and use reclaimed water;
- requiring buildings to be water-efficient and mandating water-efficient fixtures and appliances in all new development and government buildings;
- requiring site-appropriate, drought-tolerant low water use, native landscaping and ultra-efficient irrigation systems where appropriate for all development applications and re-landscaping projects and limiting the amount of water intensive landscaping to reduce the amount of water needed for irrigation

#### **5. GHG Mitigation Fee for New Development**

A fair share mitigation fee can be imposed on new development to fund measures in the climate action plan.

### **III. The EIR Fails to Address the Impact Global Warming Will Have on the Project**

Global warming will affect California's climate, resulting in such impacts as increased temperatures and wildfires, and a reduction in snowpack and precipitation levels and water availability. These factors will impact development under the General Plan Update, as well as exacerbate its own environmental impacts. Therefore, these factors must be considered in the EIR. *See* Guidelines § 15126.2(a) (an EIR "shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected.") The EIR must use its best efforts to find out and disclose all it reasonably can about the impacts of climate change on the environment and—most importantly—use that information to form an educated opinion about how to plan and adapt for the impacts of climate change. (California Attorney General 2009). Examples of how global warming will impact development under the General Plan and intensify the environmental impacts it will already have are discussed below. It is not an exhaustive list.

#### **A. The EIR Must Analyze Global Warming's Affect on Water Supply in Determining Project Water Supply Impacts**

The IPCC projects with "high confidence" that water supplies stored in mountain snowpacks such as the Sierra Nevada will decline around the world, reducing water availability in regions supplied by meltwater. (IPCC. 2007a). Most montane ice fields are predicted to disappear during this century, further exacerbating water shortages in many areas of the world. (Epstein, P.R. and E. Mills 2005). The IPCC specifically identified the American West as vulnerable, warning, "[p]rojected warming in the western mountains by the mid-21st century is very likely to cause large decreases in snowpack, earlier snow melt, more winter rain events, increased peak winter flows and flooding, and reduced summer flows." (IPCC. 2007b at 62). These changes would shift available water supplies from summer — when they are most needed by people, agriculture, and ecosystems — to earlier in the year. (The Rocky Mountain Climate Organization, NRDC 2008). The IPCC also warned that the results would include "a projected increase in the chance of summer drying in the mid-latitudes," which includes the American West, "with associated increased risk of drought." (IPCC. 2007c) All in all, the IPCC concluded that in North America, including the fast-growing western United States, "[r]educed water supplies coupled with increases in demand are likely to exacerbate competition for over-allocated water resources." (IPCC. 2007b)

The U.S. National Assessment water sector report also summarizes similar concerns:

"More than 20 years of research and more than 1,000 peer-reviewed scientific papers have firmly established that a greenhouse warming will alter the supply and demand for water, the quality of water, and the health and functioning of aquatic ecosystems."

(Gleick 2000). In California the Legislature has recognized that greenhouse gas emissions and global warming pose serious threats to natural resources and the environment of California, from the potential adverse reduction in the quality and supply of water to the state from the Sierra snowpack. (Health and Safety Code § 38501(a)). A dry climate caused by global warming would impose large costs and challenges on California, severely affecting the economies of some rural and agricultural regions of the state. (California Climate Change Center. 2006a). There is strong evidence that wildfires, precipitation patterns, and snowmelt are already being influenced by anthropogenic climate change. (Westerling, et al. 2006). The recognized environmental impacts in the local and regional vicinity of the Project must be accounted for in the EIR.

The impacts of climate change that must be addressed in water resources planning are varied and far reaching. The most significant impacts of global warming on water management are rising temperatures, increasing proportions of annual precipitation in the form of rainfall, disrupted streamflow timing, altered snowpack conditions, increased evaporation and transpiration, greater risk of fires, and sea level rise. (NRDC 2007). Climate change and variability will affect the timing, amounts, and form of precipitation, which in turn will affect all elements of water systems, from watershed catchment areas to reservoirs, conveyance systems, and wastewater treatment plants. (Miller, Kathleen and David Yates. 2005). These systems are already stressed today due to a multitude of factors including limitations on supply from the Sacramento San Joaquin Delta. (Tepper, Bruce 2008). Overdraft and contamination of groundwater sources have reduced the availability of groundwater supplies in many areas. (NRDC 2007). Saltwater intrusion in coastal aquifers is a problem in many areas. *Id.* Climate change has the potential to exacerbate these situations, requiring increased attention from water managers and municipal planners. These factors must be accounted for in the EIR because it relies upon water resources that will be in greater scarcity in the future.

The combined threats of climate change and population growth pose serious threats to the water supply of the Sierra Nevada. (Sierra Nevada Alliance 2003). Evidence of warming trends is already being seen in winter temperatures in the Sierra Nevada, which rose by almost 2 degrees Celsius (4 degrees Fahrenheit) during the second half of the 20th century. (NRDC 2007). Trends toward earlier snowmelt and runoff to the San Francisco Bay-Delta over the same period have also been detected. (Dettinger, Michael D. and Dan R. Cayan 1994). Future changes in snowpack are a great concern because snow levels have been predicted to retreat 500 feet in elevation in California for every rise of one degree Celsius. (Roos 2005). Under a low emissions scenario Sierra snowpack is reduced 30-70%. (Hayhoe, K., et al. 2004). Under a higher emissions scenario snowpack would decline 74-90%, with impacts on runoff and streamflow. Combined with projected declines in winter precipitation, these changes could fundamentally disrupt California's water rights system. (Hayhoe, K., et al. 2004).

A significant body of analysis suggests that total streamflows in the future will be reduced in comparison with historical levels. (NRDC 2007). Analysis by the California Climate Change Center in 2006 found that climate change could lead to significant reductions in total reservoir inflows and total Delta inflows. (California Climate Change Center 2006b). Approximately two-thirds of model runs revealed likely reductions in total inflows for major

northern California reservoirs, with maximum projected reductions of approximately 12 percent. (California Climate Change Center 2006b).

Sea level rise also has potentially severe impacts on water supply. (NRDC 2007). For example, for the San Francisco Bay and the Sacramento-San Joaquin River Delta, global warming impacts will compromise ecosystem health, water supply, and water quality. (NRDC 2007).

Scientists indicate that climate change will also exacerbate the problem of flooding by increasing the frequency and magnitude of large storms, which in turn will cause an increase in the size and frequency of flood events. (NRDC 2007). The increasing cost of flood damages and potential loss of life will put more pressure on water managers to provide greater flood protection. (NRDC 2007). At the same time, changing climate conditions (decreased snowpack, earlier runoff, larger peak events, etc.) will make predicting and maximizing water supply more difficult. (NRDC 2007). These changes in hazard risk and water supply availability must be considered during environmental review.

Water quality, in addition to water quantity and timing, will also be impacted. Changes in precipitation, flow, and temperature associated with climate change will likely exacerbate water quality problems. (NRDC 2007). Changes in precipitation affect water quantity, flow rates, and flow timing.<sup>7</sup> Shifting weather patterns are also jeopardizing water quality and quantity in many countries, where groundwater systems are overdrawn. (Epstein, P.R. and E. Mills 2005). Decreased flows can exacerbate the effect of temperature increases, raise the concentration of pollutants, increase residence time of pollutants, and heighten salinity levels in arid regions. (Schindler, D.W. 1997)

#### **B. The EIR Must Analyze Global Warming's Affects on Wildfires in Determining Project Wildfire Impacts**

Global warming will greatly affect the rate and intensity of wildfires in the area. (IPCC 2007c). If temperatures rise into the medium warming range, the risk of large wildfires in the state could increase by 55%. (Cayan, et al. 2007). This is almost twice the increase expected if temperatures stay in the lower warming range. (Cayan, et al. 2007). The risk of wildfire is determined by a combination of factors in addition to temperature rise, including precipitation, winds, landscape and vegetation conditions, and, as a result the risk will not be identical throughout the state. (Cayan, et al. 2007). Thus, the EIR must analyze how global warming will exacerbate the Project impact's on the likelihood and intensity of wildfires in the area.

#### **C. The EIR Must Analyze Global Warming's Affects on Air Quality in Determining Project Air Quality Impacts**

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<sup>7</sup> The following examples are cited in: Gleick, Peter H. et al., 2000. "Water: The Potential Consequences of Climate Variability and Change for the Water Resources of the United States." The report of the Water Sector Assessment Team of the National Assessment of the Potential Consequences of Climate Variability and Change," U.S. Global Change Research Program, Pacific Institute for Studies in Development, Environment, and Security.

Californians experience the worst air quality in the nation, with annual health and economic impacts estimated at 8,800 deaths (3,000–15,000 probable range) and \$71 billion (\$36–\$136 billion) per year. (California Climate Change Center 2006c). Ozone and particulate matter (PM) are the pollutants of greatest concern (maximum levels are about double California’s air quality standards) and the current control programs for motor vehicles and industrial sources cost about \$10 billion per year. Higher temperatures are expected to increase the frequency, duration and intensity of conditions conducive to air pollution formation. (California Climate Change Center 2006c). As such, these impacts must be considered in the environmental analysis.

#### **D. The EIR Must Analyze Global Warming’s Affects on Biological Resources in Determining Project Impacts**

Climate change is a leading threat to California and the world’s biological diversity. The three categories of impacts to biological resources from global warming are: (1) earlier timing of spring events, (2) extension of species’ range poleward or upward in elevation, and (3) a decline in species adapted to cold temperatures and an increase in species adapted to warm temperatures (Parmesan and Galbraith 2004). While theoretically some species can adapt by shifting their ranges in response to climate change, species in many areas today, in contrast to migration patterns in response to paleoclimatic warming, must move through a landscape that human activity has rendered increasingly fragmented and inhospitable. When species cannot shift their ranges northward or to increased elevations in response to climate warming, they will become extinct. (Parmesan and Galbraith 2004). Therefore, the least mobile species will be the first to disappear. To the extent reasonably foreseeable the EIR should discuss the how development proposed under the Project would impinge upon the range of species at risk or exacerbate impacts already been felt due to global warming.

#### **IV. THE DEIR FAILS TO ADEQUATELY ANALYZE IMPACTS TO BIOLOGICAL RESOURCES**

The Project area contains a high number of rare, sensitive, threatened, or endangered species. Over 25 special status species have been reported within the Project Area. (DEIR at III-47 to III-50, DEIR App. B, p. 30-33). The CEQA Guidelines require a mandatory finding of significance where the project has the potential to, inter alia, “substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare, or threatened species” or has cumulatively considerable environmental effects. 14 CCR § 15065. Despite the recognition of the Project’s impacts to the environment and sensitive communities the EIR impermissibly downplays the significance of the Project’s impacts, and thus avoids the substantive requirement to adopt feasible mitigation measures and alternatives. Pub. Res. Code § 21002.

The EIR repeatedly recognizes that the development from the Project will result in the destruction of sensitive wildlife and habitat communities:

“permanent disturbances can lead to the destruction of entire populations of common and sensitive plant species”(DEIR III-62); “urban development has the potential to destroy or fragment [] habitat[]; impacts also include the depletion of surface water resources as urban water uses increase in the planning area. Individual species and entire populations will be impacted by permanent loss of this habitat.”(DEIR III-63); “Development in the Town of Apple Valley will result in habitat degradation and the direct loss of foraging and nesting sites for a variety of common and special-status bird species.” (DEIR III-63); “Urbanization of the General Plan and annexations areas has the potential to adversely impact common and sensitive animal species.” (DEIR III-64); “Development of the General Plan will remove habitat and increase fragmentation, which will adversely impact mammal species occurring the Town.” (DEIR III-65).”

Human encroachment into undeveloped lands is expected to reduce open space, foraging habitat, and overall biodiversity. Cumulative adverse impacts that may result from continued clearing and development of land in the planning area include the reduction of foraging territory for ranging species; the disruption of species’ migration patterns; the creation of isolated sub populations; and the restriction in “gene flow” between existing sub-populations.

(DEIR VIII 4-5)

Similarly, the Biological Resources Report prepared for the Project repeatedly recognizes the threats posed to biological resources from the project:

“Locally, rapid urbanization in the region has led to the listing of some plant and animal species as threatened or endangered by State and/or Federal governments.”

DEIR App. B, p.1

“Wildlife species are likely to be displaced, injured, or killed as a result of property development, vehicle travel, soil alteration, removal of vegetation, and/or degradation of habitats in certain portions of the Planning Area. Courtship behaviors and breeding by some native wildlife are likely to be disrupted during the course of individual development actions.

“There is a distinct potential for adverse impacts where listed animals occur as residents or seasonal migrants, resulting in incidental take of these species. Should impacts to special status species occur, they would add to the cumulative impacts each species already faces in the rapidly growing West Mojave Desert.”

DEIR App. B, p.80

The “General Plan study area encompasses approximately 78 square miles.” (DEIR at I-3). Over 90% of that area has been planned for development of residential, commercial, industrial, or public use. (DEIR at I-17). Only 6.5% would remain in Open Space that could potentially provide habitat for sensitive species. (DEIR at I-17). This is exactly the type of permanent disturbance from urban development that leads to a significant impact. For example,

development of over 90% of the Project area will have “a substantial adverse effect” on the following: candidate, sensitive, and special status species; wetlands, riparian habitat, and other sensitive natural communities; the movement of wildlife; and wildlife nursery sites. CEQA Guidelines Appendix G.

Astoundingly, the DEIR states that the widespread destruction of wildlife and habitat will be less than significant after mitigation. (DEIR at III-62). This conclusion cannot be supported by substantial evidence because the DEIR and Biological Resources Report depict exactly the type of action contemplated by the Project as direct and indirect significant impacts to sensitive wildlife and sensitive habitats.

The assertion that these significant impacts can be mitigated becomes more astounding upon review of the unenforceable and illusory mitigation measures themselves. The Town cannot simply defer the formulation of mitigation measures to a later date that potentially will not occur. The Town must commit to eventually devising mitigation measures and articulate specific performance criteria for implementation of those mitigation measures. *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670). Unfortunately the DEIR proposes to defer the development of mitigation and rely upon plans that have an uncertain future or do not apply to the Project Area.

The DEIR relies upon the West Mojave Habitat Conservation Plan and Apple Valley Multiple Species Habitat Conservation Plan to provide for habitat protection and connectivity. Neither of these plans apply to the private land proposed for development in the Project Area. The West Mojave Plan applies only to federally owned lands and is not applicable on the privately owned land in the Project area. (DEIR at III-58). The private lands counterpart has not been completed and there is no assurance that it will be completed to mitigate the impacts of private land development in the Project area. Similarly, the Apple Valley Habitat Conservation Plan is in preparation and does not apply to the Project Area. There are no assurances, mitigation measures, firm commitments, or deadlines to assure that these plans will ever be in place to mitigate the impacts to biological resources within the project area.

Mitigation measures must be made fully enforceable “through permit conditions, agreements, or other measures.” Pub. Resources Code, § 21081.6(b). When mitigation measures are incorporated into a plan, the agency must take steps to ensure that they will actually be implemented as a condition of later development approved under the plan, “not merely adopted and then neglected or disregarded.” *Federation of Hillside Canyon & Canyon Ass’ns v. City of Los Angeles*, 83 Cal.App.4th 1252 (2000). Unfortunately, the mitigation measures proposed in the EIR lack enforceability or performance criteria. For example, the DEIR calls for coordination and consultation with agencies, consideration of open space “as appropriate”, conserve groundwater “as much as feasible”, promotion of native vegetation, and surveys. It fails to prevent the type of habitat destruction that can lead to significant biological impacts.

The Mitigation Monitoring/Reporting Program also fails to provide for enforceable mitigation or performance criteria that will reduce or compensate for the loss of habitat caused by the plan. For example, the mitigation measures only call for mitigation measures “as

necessary”, the formulation of future mitigation, and assurances that future permits are received. (DEIR III-67). This can hardly compensate for the cumulative destruction, loss, and fragmentation of habitat contemplated under the Project.

Moreover, the DEIR ignores the recommended mitigation submitted with the Biological Resources Report that conservation emphasis open spaces areas should be developed.

Formally recognized open space areas should consist of large, undisturbed native plant community properties containing special status species’ habitat and representative Apple Valley biodiversity.

DEIR App. B, p.81

The Falchion Boulderlands locality located slightly northeast of the Mojave River Narrows also provides extensive habitat for a variety of wildlife and acts as a “steppingstone” linkage habitat to northern Apple Valley wildlife habitats. Public lands in the immediate Bell Mountain vicinity, as well as on the north slope of the Turtle Mountains (Map 13), similarly act as a linkage habitat for many wildlife species travelling through the Planning Area. Both areas provide diverse habitats, in addition to a habitat linkage, and consequently are also likely candidate localities for conservation-emphasis open space protection (Map 14).

DEIR App. B, p.83. A map depicting these areas is included in the DEIR at “Habitat Areas Requiring Additional Biological Study”, yet no additional study or open space protection is proposed. (DEIR at 56).

Specific, feasible, and enforceable mitigation measures for biological impacts and the loss and disruption of essential habitat due to edge effects are available but were not incorporated in the DEIR. They include, but are not limited to, the following:

- minimum 300-foot setbacks between developed area, including roads, and sensitive habitat areas
- conditions prohibiting non-leashed outdoor pets (including cats)
- requiring, where appropriate, walls or fences that will inhibit domestic animals from harassing and harming native species including “cat-proof” fencing to prevent feral and house cats from accessing sensitive habitat
- capture programs to control feral cats
- techniques to control non-native invasive species
- prohibiting the use of pesticides and other toxic chemicals around homes and golf courses
- requiring, not simply recommending, the use of native vegetation in landscaping
- providing public education regarding rare, threatened and endangered species and how local communities can help protect them
- requiring gates to restrict access to lands set aside for habitat preservation

The DEIR also fails to adequately analyze and quantify the impacts to wildlife corridors in the project area. Habitat corridors are most effective when adjacent uses are compatible with

suitable wildlife habitat. (Beier and Loe 1992; Perault and Lomolino 2000). Urbanization has continually proven to be an incompatible use for wildlife habitat. Lower intensity use such as timber recreation or agriculture would be a more compatible use. The project will result in a highly urbanized use that will significantly impact the wildlife habitat potential of the site.

Intrusion by development into wildlife corridors impedes the migration of species within the corridor and increases the adverse “edge effects” of fragmented habitat. (Bond 2003). The project’s elimination of wildlife habitat, development over the next 25 years, and increase in traffic flow and population is incompatible with wildlife habitat. The project’s encroachment into Wildlife Dispersion Corridors will create a significant adverse effect upon wildlife migration within the area. These biological effects must be fully analyzed in the EIR to determine the alternative that best suits the needs of the community and existing biological constraints.

Finally, the DEIR fails to estimate or quantify the loss of habitat as a result of the Project. The Apple Valley Project Area contains a range of natural communities such as Creosote Bush Scrub, Mojave Mixed Woody Scrub, and Mojave Riparian Forest. The EIR fails to describe what type of loss would occur within those habitat type areas to better inform the impact analysis. The EIR fails to detail what types of natural communities would be lost by Project buildout, and what types of species will be especially impacted by that loss of habitat. The DEIR fails in the basic disclosure requirements of CEQA “to inform the public and its responsible officials of the environmental consequences of their decisions before they are made.” *Laurel Heights Improvement Association v. Regents of University of California*, 6 Cal. 4th 1112, 1123 (1993).

## **V. THE DEIR FAILS TO ADEQUATELY ANALYZE THE IMPACTS TO WATER SUPPLIES AND IMPACTS OF PROVIDING SUFFICIENT WATER SUPPLIES**

CEQA requires water supply to be analyzed with a sufficient degree of certainty to assure that water resources will be available for the project and analyze any impacts of providing those resources to the project. The EIR fails to follow the recent guidance issued by the California Supreme Court regarding an adequate analysis of water supply and impacts before a project is approved. *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal. 4th 412 (EIR failed to clearly and coherently explain how the long term water demand of project would be met, the environmental impacts of exploiting the planned sources of water, and how those impacts are to be mitigated). The EIR falls far short of the standards required under CEQA.

The DEIR admits that the Project will contribute to the continued overdraft of the Mojave groundwater basin:

The Basin is in a condition known as overdraft, wherein groundwater discharge exceeds recharge, resulting in a net reduction in groundwater stored in the aquifer...Water levels in the Alto subarea have declined by between 50 and 75 feet since the mid-1940s. Overdraft conditions are currently present in almost all of the subareas in the Mojave River Basin.

(DEIR at III-143). The proposed General Plan and annexations will contribute to a cumulative reduction in groundwater in the Basin. (DEIR VIII-4).

In order to deal with that overdraft the EIR engages in a series of tenuous assumptions regarding the availability of future water and the construction and availability of mitigation measures to provide for more water and water conservation including the following:

that sufficient water supplies will be available to MWA in future to meet the needs of the Basin, and that such supplies are a combination of natural recharge, imported water from SWP and other sources, water conservation, water reuse, and FPA transfers among producers.

All water supplies generated in the MWA, or imported from outside, are recharged into the groundwater basins for future use. The 2005 Urban Water Management Plan prepared by MWA (see below) demonstrates that increased water demands over the next 20 years will require the development and implementation of additional projects and water management actions to ensure sufficient groundwater recharge to maintain groundwater levels and to protect groundwater quality.

(DEIR at III-145)

The assumptions of available groundwater and the ability to provide for water resources is further compounded in the EIR's failure to adequately analyze and disclose the impacts of water scarcity in the annexation areas.

Currently neither annexation area is serviced by any of the water purveyors... Water for existing development, which is limited to scattered single-family residential development in Annexation 2008-001, and an aggregate quarry operation in Annexation 2008-002, is provided by private wells or water delivered by private haulers for storage in privately owned underground storage tanks.

(DEIR III-149). Furthermore, the EIR fails to disclose that additional development in the annexation areas cannot proceed in violation of San Bernardino County Code 33.0623, prohibiting the reliance of development on hauled water.

Where, as here, the water supply is uncertain and a shortfall in those supplies theoretically available is likely, the EIR must evaluate that issue, identify other potential sources, and identify and analyze the environmental consequences of tapping those resources. *Santa Clarita Org. for Planning the Environment v. County of Los Angeles*, 106 Cal. App. 4<sup>th</sup> 715 (2003); *Napa Citizens for Honest Government v. Napa County Bd. Of Supervisors*, 91 Cal. App. 4<sup>th</sup> 342, 371 (2001). Where there is remaining uncertainty that the water supply will be available, the EIR must provide mitigation measures that will prevent development until water supply is secured. *See Napa Citizens*, 91 Cal. App. 4<sup>th</sup> at 374.

The requirement that new developments pay “impact fees” that would pay to import water to recharge depleted aquifers is not “full mitigation,” as the DEIR says. Water Districts in the county are already recharging the aquifers they rely on, but are still overdrawing their supplies. There are no large, untapped supplies of potable water available for new recharge facilities in southern California. The State Water Project has little more than enough water to meet its delivery obligations, and the Mojave Water Agency, the State Water Project water purveyor for much of San Bernardino County, will not extend existing contracts or enter into new ones for water deliveries. Furthermore, additional restriction in water pumping have limited the supply of State Water Project Money, and climate change poses to further those impacts. The EIR, including its supporting documents like the Urban Water Management Plan fail to address the reductions in anticipated water supply. Under these circumstances, it is not rational to believe that “impact fees” to buy and import water will mitigate, fully or otherwise, the negative effects new developments will have on water supplies and water quality. There is not now enough water to support current development in the long-term, and there is not much more water available to supplement existing supplies.

As mitigation measures that are feasible and that will reduce the negative effects on water supplies and quantity, the County should adopt policies and regulations that do the following:

- Reduce residential densities in areas where water supplies are being overdrawn by current development, or where water supplies are compromised by natural or man-made contaminants.
- Discourage and restrict uses with heavy water demands from locating in those same areas.
- Mandate water conservation:
- Adopt landscape regulations that prohibit, or at least limit, plants with heavy water demands. Encourage use of native, drought-tolerant vegetation.
- Adopt standards for and encourage installation of gray-water systems.
- Adopt *and enforce* regulations that restrict the grading of lots and removal of native vegetation to the “envelope” for any new building, including and especially any single-family dwelling.
- Require use of pervious surfaces where feasible for driveways and parking lots, to reduce run-off and maintain some recharge capacity for the site.

Despite this significant unmitigable impact and failure to determine future available water sources the preferred plan still blindly moves forward without analyzing the impacts. If future water sources are too speculative to rely upon then the EIR must analyze the potential environmental impacts of other likely water resources that would be relied upon to meet the project demands. Here the EIR fails to analyze future water resources at all by simply stating that those available resources are insufficient.

The Town cannot abdicate its duty under CEQA and applicable state water planning laws and regulations to plan for future water demand and the environmental impacts of providing that water demand. CA Wat. Code § 10610 *et seq.*, 10910 *et seq.*, PRC 21159.1, Gov Code § 65352 *et seq.* The Town must analyze and adopt an alternative that fits within its projected water

availability for the short and long term water demands. The DEIR for the General Plan must analyze and describe any discrepancy between the assumptions and predictions in the General Plan and environmental documents and those found within the applicable Urban Water Management Plan. Failure to address inconsistency between growth projections, assumptions for availability of water supply, and assumptions of environmental impacts must be reconciled.

## **VI. THE DEIR FAILS TO CONSIDER A REASONABLE RANGE OF ALTERNATIVES**

An EIR is required to describe a reasonable range of alternatives to the project, which would feasibly attain most of its basic objectives but would avoid or substantially lessen its significant effects. Guidelines § 15126.6(a). “Without meaningful analysis of alternatives in the EIR, neither courts nor the public can fulfill their proper roles in the CEQA process.” *Laurel Heights Improvement Ass’n v. Regents of University of California*, 47 Cal.3d 376, 404 (1988). The City has a substantive duty to adopt feasible, environmentally superior alternatives. Pub. Res. Code § 21002, Cal Code Regs §§ 15002(a)(3), 15021(a)(2). A lead agency cannot abdicate this duty unless substantial evidence supports a finding that the alternative is infeasible. *See, e.g., Citizens of Goleta Valley v. Board of Supervisors* (1988) 197 Cal.App.3d 1167, 1181.

The EIR fails to consider a reasonable range of alternatives. Indeed, absent data on the Town’s projected growth and the timeframe for the General Plan update it is impossible to examine alternatives to meet the Project’s purpose. Rather than focus on means to achieve projected growth, the two alternatives are misleadingly dubbed a “more intensive” and “less intensive” scenario. These alternatives are not more or less intense, but rather call for more or less growth. An alternative should be developed to accommodate a similar amount of growth as needed, but in a less environmentally intense way, by focusing on infill development rather than vacant areas on the outskirts of town (such as the two proposed annexation areas).

The Town must consider alternatives that incorporate strict energy and water conservation measures, require green building practices and mixed-use development and place development near alternative transportation nodes. A “smart growth” alternative can meet the project objectives while providing for a more walkable, mixed-use, and public transit friendly community. Such alternatives would result in a significant reduction in greenhouse gas emissions resulting from VMTs and energy consumption. It would also result in fewer greenhouse gas emissions from construction and development, as the Town would not have to build new infrastructure throughout unincorporated.

The Town should set forth and frame an alternative as a “low carbon” alternative and discuss the types of measures and land use decisions that would be required for the Town to comply with AB 32 targets and move forward to 2050 reduction targets. (California Attorney General 2009). Mitigation Measures to encourage the “low carbon” alternative are described above and can be easily achieved while reaching the project objectives for the General Plan Update. To the extent the Town rejects the low carbon alternative or feasible mitigation measures that decision must be supported by substantial evidence. These alternatives would

meet the Town's basic goals and objectives of its General Plan Update and, therefore, must be considered.

Finally, the Town must explain its analysis of the alternatives in more detail so that the public and decision-makers can better determine how they would or would not achieve the goals and objectives of the General Plan Update, lessen the environmental impacts resulting from growth and development and why the Town eventually chose this General Plan Update, rather than more environmentally-friendly alternatives.

Once emissions from the proposed General Plan Update are fully quantified, the DEIR should compare the Project with the emission resulting from the various project alternatives. UPLAN is one type of modeling software that allows for emission to be measured using differing land use and growth assumptions. Only by comparing emissions among alternatives will decision makers and the public be properly informed of the global warming impacts of the project.

## **VII. THE DEIR MUST BE REDRAFTED AND RECIRCULATED**

CEQA requires recirculation of a revised draft EIR “[w]hen significant new information is added to the environmental impact report” after public review and comment on the earlier draft DEIR. Pub. Res. Code § 21092.1. This includes the situation where, as here, “[t]he draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.” Guidelines § 15088.5(b)(4). The opportunity for meaningful public review of significant new information is essential “to test, assess, and evaluate the data and make an informed judgment as to the validity of the conclusions to be drawn therefrom.” *Sutter Sensible Planning, Inc. v. Sutter County Board of Supervisors*, 122 Cal.App.3d 813, 822 (1981); *City of San Jose v. Great Oaks Water Co.*, 192 Cal.App.3d 1005, 1017 (1987). An agency cannot simply release a draft report “that hedges on important environmental issues while deferring a more detailed analysis to the final [EIR] that is insulated from public review.” *Mountain Lion Coalition v. California Fish and Game Comm’n*, 214 Cal.App.3d 1043, 1053 (1989).

In order to cure the panoply of defects identified in this letter, the Town will have to obtain substantial new information to adequately assess the proposed Project's environmental impacts, and to identify effective mitigation capable of alleviating the Project's significant impacts. CEQA requires that the public have a meaningful opportunity to review and comment upon this significant new information in the form of a recirculated draft EIR.

## **CONCLUSION**

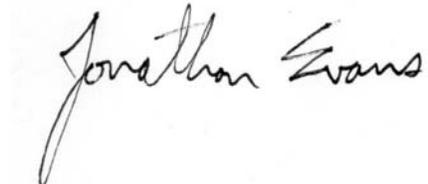
Thank you for your consideration of these further comments. Although the comment period for the Draft EIR has passed, because the following comments relate to matters that must be included in an EIR, we hope that the lead agencies will consider the comments in their preparation of the Final EIR. We also respectfully remind the City and Department of

Transportation that under Public Resources Code § 21167.6(e)(6-7) all written comments received in connection with environmental documents become part of the administrative record for the environmental document and must be considered by the Lead Agencies in preparation, review, and approval of environmental documents.

We look forward to working with the you now and in the future to reach our shared goals of reducing greenhouse gas emissions and protecting biological diversity, public health, and our environment.

The Center for Biological Diversity wishes to be placed on the mailing/notification list for all future environmental decisions regarding this Project. If you have any questions regarding these comments, please do not hesitate to contact Jonathan Evans at the contact information listed above.

Best regards,

A handwritten signature in black ink that reads "Jonathan Evans". The signature is written in a cursive, flowing style.

Jonathan Evans  
Staff Attorney  
Center for Biological Diversity

cc (without attachments):

Town of Apple Valley, Mayor Rick Roelle, [roelle@applevalley.org](mailto:roelle@applevalley.org)  
Town of Apple Valley, Mayor Pro Tem Scott Nassif, [snassif@applevalley.org](mailto:snassif@applevalley.org)  
Town of Apple Valley, Council Member Peter Allan, [pallan@applevalley.org](mailto:pallan@applevalley.org)  
Town of Apple Valley, Council Member Ginger Coleman, [gcoleman@applevalley.org](mailto:gcoleman@applevalley.org)  
Town of Apple Valley, Council Member Bob Sagona, [bsagona@applevalley.org](mailto:bsagona@applevalley.org)  
Town of Apple Valley, City Manager Frank Robinson  
California Office of the Attorney General  
South Coast Air Quality Management District  
California Office of Planning and Research

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**APPENDIX A**  
**Biological Protocols**

## CALIFORNIA DEPARTMENT OF FISH AND GAME

### MOHAVE GROUND SQUIRREL SURVEY GUIDELINES

(January 2003; minor format changes in June 2004)

Unless a certain circumstance<sup>(1)</sup> applies, the Department of Fish and Game (Department) requires a survey to be undertaken for the Mohave ground squirrel (*Spermophilus mohavensis*) on a project site, if the proposed site has potential habitat of this species and the presence of the species on the project site is unknown. Potential habitat is land supporting desert shrub vegetation<sup>(2)</sup> within or adjacent to the geographic range<sup>(3)</sup> of the species. A project is an action that results in temporary or permanent removal or degradation of potential habitat. The Department considers a project site to be an area of land controlled by the project proponent, including but not limited to the portion proposed for removal or degradation of potential habitat. The Department considers a project site to be occupied by the Mohave ground squirrel, if an individual of this species is observed, or is captured on any sampling grid, on the project site.

The Department intends for these survey guidelines to apply to projects that would negatively affect  $\leq 180$  acres or to linear projects  $\leq 5$  miles in length. For projects of larger scale, the Department requires special survey protocol(s) to be developed through its consultation with either the project proponent or the local lead agency (if appropriate) or both entities.

For projects of the appropriate scale, each survey shall adhere to the following conditions:

1. Studies that include trapping for the Mohave ground squirrel shall be authorized by a Memorandum of Understanding (MOU) with the Habitat Conservation Planning Branch of the Department, or by other permit as determined by the Department, and shall be undertaken only by a qualified biologist. A qualified biologist is a biologist who has demonstrated pertinent field experience in capturing and handling ground squirrels or other small mammals in desert/arid communities and who has been permitted by the Department to work without supervision. Each biologist setting traps, opening traps containing captured animals, or handling captured animals must be named in the MOU as an authorized person, whether qualified or not to work without supervision. (For information on the procedure to obtain an MOU, see page 3.)
2. Visual surveys to determine Mohave ground squirrel activity and habitat quality shall be undertaken during the period of 15 March through 15 April. All potential habitat on a project site shall be visually surveyed during daylight hours by a biologist who can readily identify the Mohave ground squirrel and the white-tailed antelope squirrel (*Ammospermophilus leucurus*).

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(1) A survey is not necessary in the circumstance that the project proponent prefers to assume that the Mohave ground squirrel is present on the project site and applies for a California Endangered Species Act incidental-take permit (Fish and Game Code Section 2081b) requiring mitigation and compensation.

- (2) Examples of desert shrub vegetation that is known to provide habitat for the Mohave ground squirrel include (but are not limited to) Mojave Creosote Bush Scrub, Mojave Mixed Woody Scrub, and Desert Saltbush Scrub as described in Holland 1986.
- (3) Since the limits of the geographic range are not known precisely, surveys may be required in areas up to five miles from currently-documented boundaries.

Mohave Ground Squirrel Survey Guidelines

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January 2003 (format modifications in June 2004)

3. If visual surveys do not reveal presence of the Mohave ground squirrel on the project site, standard small-mammal trapping grids shall be established in potential Mohave ground squirrel habitat. The number of grids will depend on the amount of potential habitat on the project site, as determined by the guidelines presented in paragraphs 4 and 5 of these guidelines.
4. For linear projects (for example, highways, pipelines, or electric transmission lines), each sampling grid shall consist of 100 Sherman live-traps (or equivalent; the minimum length of any trap is 12 inches) arranged in a rectangular pattern, 4 traps wide by 25 traps long, with traps spaced 35 meters apart along each of the four trap lines. At a minimum, one sampling grid of this type shall be established in each linear mile, or fraction thereof, of potential Mohave ground squirrel habitat along the project corridor.
5. For all other types of projects, one sampling grid consisting of 100 Sherman live-traps (or equivalent; the minimum length of any trap is 12 inches) shall be established for each 80 acres, or fraction thereof, of potential Mohave ground squirrel habitat on the project site. The traps shall be arranged in a 10 x 10 grid, with 35-meter spacing between traps.
6. Each sampling grid shall be trapped for a minimum five consecutive days, unless a Mohave ground squirrel is captured before the end of the five-day term on the grid or on another grid on the project site. If no Mohave ground squirrel is captured on a sampling grid on the project site in the first five-consecutive-day term, each sampling grid shall be sampled for a SECOND five-consecutive-day term. Trapping may be stopped before the end of the second term if a Mohave ground squirrel is captured on any sampling grid on the project site. If no Mohave ground squirrel is captured during the second five-consecutive-day term, each sampling grid shall be sampled for a THIRD five-consecutive-day term. The FIRST trapping term shall begin and be completed in the period of 15 March through 30 April. If a SECOND term is required, it shall begin at least two weeks after the end of the first term, but shall begin no earlier than 01 May, and shall be completed by 31 May. If a THIRD term is required, it shall begin at least two weeks after the end of the second term, but shall begin no earlier than 15 June, and shall be completed by 15 July. All trapping shall be conducted during appropriate weather conditions, avoiding periods of high wind, precipitation, and low temperatures (<50°F or 10°C).

7. For projects requiring two or more sampling grids, capture of a Mohave ground squirrel on any grid will establish presence of the species on the project site. Trapping may be stopped on all grids on the project site at that time. For linear projects, very large project sites, project sites characterized by fragmented or highly-heterogeneous habitats, or in other special circumstances, continued trapping may be necessary.

Mohave Ground Squirrel Survey Guidelines

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January 2003 (format modifications in June 2004)

8. A maximum 100 traps shall be operated by each qualified biologist. Each trap shall be covered with a cardboard A-frame or equivalent non-metal shelter to provide shade. Trap and shelter orientation shall be on a north-south axis. All traps shall be opened within one hour of sunrise and may be closed beginning one hour before sunset. Traps shall be checked at least once every four hours to minimize heat stress to captured animals. When traps are open, temperature shall be measured at a location within the sampling grid, in the shade, and one foot (approx. 0.3 meters) above the ground at least once every hour. Traps shall be closed when the ambient air temperature at one foot above the ground in the shade exceeds 90°F (32°C). Trapping shall resume on the same day after the ambient temperature at one foot (approx. 0.3 meters) above the ground in the shade falls to 90°F (32°C) and shall continue until one hour before sunset. Suggested baits are mixed grains, rolled oats, or bird seed, with a small amount of peanut butter.
9. A qualified biologist shall complete the Survey and Trapping Form, which is found on page 5 of these guidelines. This biologist, or the lead agency for the project, shall submit the completed form to the appropriate Department office (see page 4) with the biological report on the project site.
10. The Department may allow variation on these guidelines, with the advance written approval of the appropriate regional habitat conservation planning office (see page 4). Such variations could include biologically-appropriate modification of the trapping dates or changes in grid configuration that would enhance the probability of detecting Mohave ground squirrels. Any variation which concerns trapping or marking methods must be incorporated into the MOU or permit that authorizes the work.
11. If a survey conducted according to these guidelines results in no capture or observation of the Mohave ground squirrel on a project site, this is not necessarily evidence that the Mohave ground squirrel does not exist on the site or that the site is not actual or potential habitat of the species. However, in the circumstance of such a negative result, the Department will stipulate that the project site harbors no Mohave ground squirrels. This stipulation will expire one year from the ending date of the last trapping on the project site.

conducted according to these guidelines.

literature cited in footnote <sup>(1)</sup>

Holland, R. F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Nongame Heritage Program report. California Department of Fish and Game (Sacramento), 156 pages.

Mohave Ground Squirrel Survey Guidelines

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January 2003 (format modifications in June 2004)

CONTACTS

- A. For information on obtaining an MOU or on the type of experience that a qualified biologist must have, contact the following:

John Gustafson	voice: (916) 654-4260
Habitat Conservation Planning Branch	fax: (916) 653-2588
Department of Fish and Game	e-mail: JGustafs@dfg.ca.gov
1416 Ninth Street, 12 <sup>th</sup> Floor	
Sacramento, California 95814	

- B. For information on project review and conservation planning by the Department, as these activities regard the Mohave ground squirrel, contact the following:

(for Kern County)  
Habitat Conservation Planning  
San Joaquin Valley and Southern Sierra Region  
Department of Fish and Game  
1234 E. Shaw Avenue  
Fresno, California 93710  
telephone: (559) 243-4005

(for Los Angeles County)  
Habitat Conservation Planning  
South Coast Region  
Department of Fish and Game  
4949 View Ridge Avenue  
San Diego, California 92123  
telephone: (805) 491-3571

(for Inyo and San Bernardino counties)  
Habitat Conservation Planning  
Eastern Sierra and Inland Deserts Region  
Department of Fish and Game  
407 West Line Street  
Bishop, California 93514  
telephone: (760) 872-1171

Mohave Ground Squirrel Survey Guidelines

Page 5 of 5 January 2003 (format modifications in June 2004)

Mohave Ground Squirrel (MGS) Survey and Trapping Form (photocopy as needed)

**PART I - PROJECT INFORMATION** (use a separate form for each sampling grid)

Project name: \_\_\_\_\_ Property owner: \_\_\_\_\_

Location: Township \_\_\_\_\_; Range \_\_\_\_\_; Section \_\_\_\_\_; 1/4 Section \_\_\_\_\_

Quad map/series: \_\_\_\_\_ UTM coordinates: \_\_\_\_\_  
GPS coordinates of trapping-grid corners

Acreage of Project Site: \_\_\_\_\_ Acreage of potential MGS habitat on site: \_\_\_\_\_

Total acreage visually surveyed on project site: \_\_\_\_\_ Date(s): \_\_\_\_\_  
visual surveys

Visual surveys conducted by: \_\_\_\_\_  
names of all persons by date (use back of form, if needed)

Total acres trapped: \_\_\_\_\_ Number of sampling grids: \_\_\_\_\_

Trapping conducted by: \_\_\_\_\_  
names of all persons by sampling term and sampling grid (use back of form, if needed)

Dates of sampling term(s): FIRST \_\_\_\_\_ SECOND \_\_\_\_\_ THIRD \_\_\_\_\_  
if required if required

**PART II - GENERAL HABITAT DESCRIPTION** (use back of form, if needed)

Vegetation: dominant perennials: \_\_\_\_\_

other perennials: \_\_\_\_\_

dominant annuals: \_\_\_\_\_

other annuals: \_\_\_\_\_

Land forms (mesa, bajada, wash): \_\_\_\_\_

Soils description: \_\_\_\_\_

Elevation: \_\_\_\_\_

Slope: \_\_\_\_\_

**PART III - WEATHER** (report measurements in the following categories for each day of visual survey and each day of trapping; using 24-hour clock, indicate time of day that each measurement was made; use a separate blank sheet for each day)

Temperature: AIR minimum and maximum; SOIL minimum and maximum; Cloud Cover: % in AM and % in PM; Wind Speed: in AM and in PM

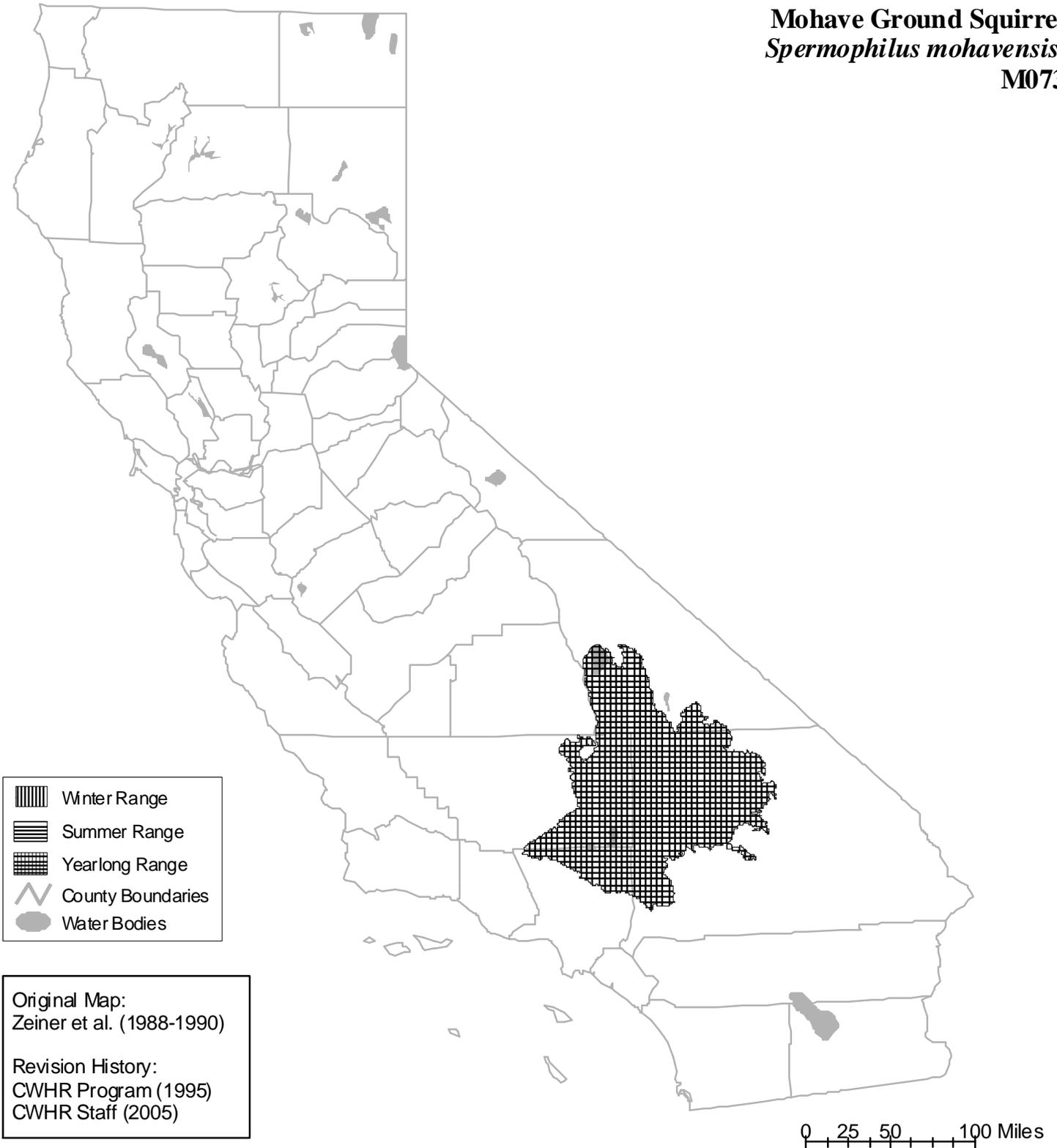
# California Wildlife Habitat Relationships System

California Department of Fish and Game

California Interagency Wildlife Task Group

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## Mohave Ground Squirrel *Spermophilus mohavensis* M073



Range maps are based on available occurrence data and professional knowledge. They represent current, but not historic or potential, range. Unless otherwise noted above, maps were originally published in Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California. Updates are noted in maps that have been added or edited since original publication.

## PREPARING FOR ANY ACTION THAT MAY OCCUR WITHIN THE RANGE OF THE MOJAVE DESERT TORTOISE (*Gopherus agassizii*)

The Mojave population of the desert tortoise (*Gopherus agassizii*) was listed by the U.S. Fish and Wildlife Service (USFWS) as threatened on April 2, 1990 (USFWS 1990) and by the State of California on August 3, 1989. Subsequently, proposed actions within the range of the desert tortoise fall under purview of the Endangered Species Act 1973, as amended (ESA), in addition to State regulations, including the California Endangered Species Act (CESA). For detailed information on the ecology of the Mojave desert tortoise, please see USFWS (2009).

This protocol provides recommendations for survey methodology to determine presence/absence and abundance of desert tortoises for projects occurring within the species range on Federal and non-Federal lands, and to provide a standard method for reporting survey results. Information gathered from these procedures will: 1) help determine the appropriate level of consultation with USFWS and the appropriate state agency; 2) help determine the incidental take of desert tortoises resulting from proposed projects as defined by the ESA and CESA; and 3) help minimize and avoid take.

This guidance includes:

- Site Assessment
- Pre-project Field Survey Protocol for Potential Desert Tortoise Habitats
- USFWS 2009 Desert Tortoise Pre-project Survey Data Sheet

This guidance is subject to revision as new information becomes available. Before initiating the protocols described below, please check with your local USFWS and appropriate state agency offices to verify that you are implementing the most up-to-date methods. To ensure quality and reduce the likelihood of nonconcurrency with survey results, we recommend that the names and qualifications of the surveyors be provided to USFWS and appropriate state agency for review prior to initiating surveys.

In Arizona:

U.S. Fish and Wildlife Service  
Arizona Ecological Services  
323 N. Leroux St., Suite 201  
Flagstaff, AZ 86001  
(928) 226-0614

In California, for Inyo, Kern, Los Angeles, and San Bernardino Counties:

U.S. Fish and Wildlife Service  
Ventura Fish and Wildlife Office  
2493 Portola Road, Suite B  
Ventura, California 93003  
(805) 644-1766

In California, for Imperial and Riverside Counties, and Joshua Tree National Park and the San Bernardino National Forest in San Bernardino Co:

U.S. Fish and Wildlife Service  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road  
Carlsbad, California 92009  
(760) 431-9440

In Nevada:

U.S. Fish and Wildlife Service  
Southern Nevada Field Office  
4701 North Torrey Pines Drive  
Las Vegas, Nevada 89130  
(702) 515-5230

In Utah:

U.S. Fish and Wildlife Service  
Utah Ecological Services Field Office  
2369 West Orton Circle  
West Valley City, Utah 84119  
(801) 975-3330

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**State Agencies**

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Arizona Game & Fish Department  
State Headquarters--Nongame Branch  
5000 W. Carefree Highway  
Phoenix, AZ 85086  
623-236-7767

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California Department of Fish and Game (CDFG)  
For Fresno, Kern, Kings, Madera, Mariposa, Merced, Monterey, San Benito, San Luis Obispo,  
Stanislaus, Tulare and Tuolumne Counties:

Central Region Headquarters Office  
1234 E. Shaw Avenue  
Fresno, CA 93710  
(559) 243-4005 ext. 151

For Imperial, Inyo, Mono, Riverside and San Bernardino Counties:

Inland Deserts Regional Office  
3602 Inland Empire Boulevard, Suite C-220  
Ontario, CA 91764  
(909) 484-0167

For Los Angeles, Orange, San Diego, Santa Barbara and Ventura Counties:

South Coast Regional Office  
4949 Viewridge Avenue  
San Diego, CA 92123  
(858) 467-4201

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Nevada: Department of Wildlife:  
Southern Region  
4747 Vegas Dr.  
Las Vegas, NV 89108  
(702) 486-5127

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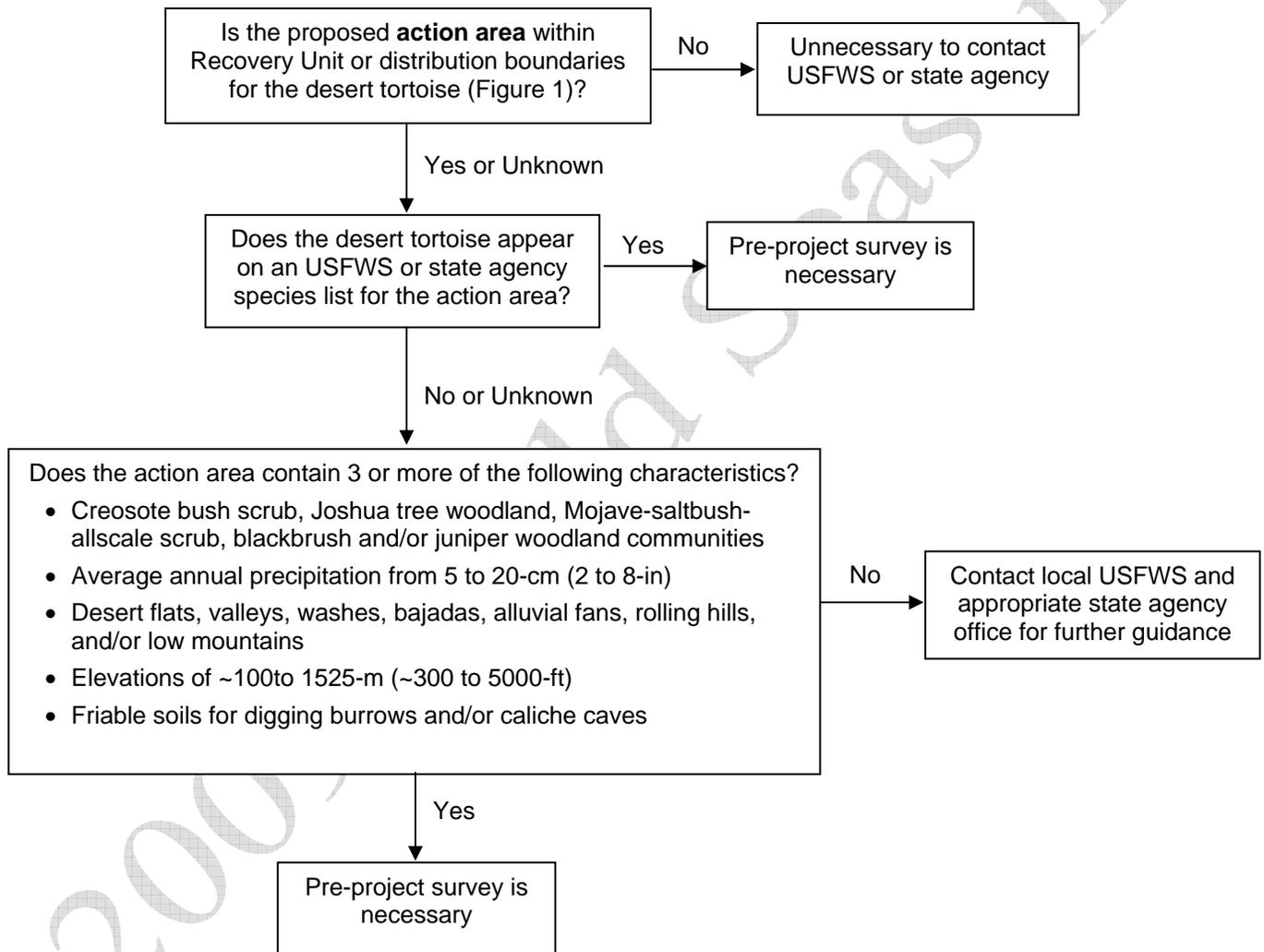
Utah Division of Wildlife Resources:  
Southern Region  
1470 N Airport Rd  
Cedar City, UT 84720  
(435) 865-6100

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2009 Field Season

## Site Assessment

Use the below key to assess if desert tortoises may be present within or near the action area and determine survey and consultation requirements<sup>1</sup>. The **action area** is defined by regulation as all areas to be affected directly or indirectly and not merely the immediate area involved in the action (50 CFR §402.02). The extent of the action area is not limited to the "footprint" of the action nor is it limited by the authority of the Federal, state, or local agency or any other entity proposing the project. The environmental baseline, the analysis of the effects of the action, and the amount or extent of incidental take are based upon the action area. If you cannot access the entire action area during your surveys for some reason (e.g. access to private property is unavailable), please note that in your survey report.



<sup>1</sup> If determined that the proposed project is not likely to adversely affect the desert tortoise and a tortoise or tortoise sign (shells, bones, scutes, limbs, burrows, pellets, scats, egg shell fragments, tracks, courtship rings, drinking sites, mineral licks, etc.) is found in the action area during implementation of the proposed project, the proposed action should *immediately* stop and then it must be determined whether further or formal consultation is necessary to comply with the ESA or CESA in California. It is recommended that the USFWS and CDFG in California be notified in writing within three days of the discovery. This short notification period will help ensure a prompt response by USFWS and CDFG to facilitate ESA and CESA compliance.

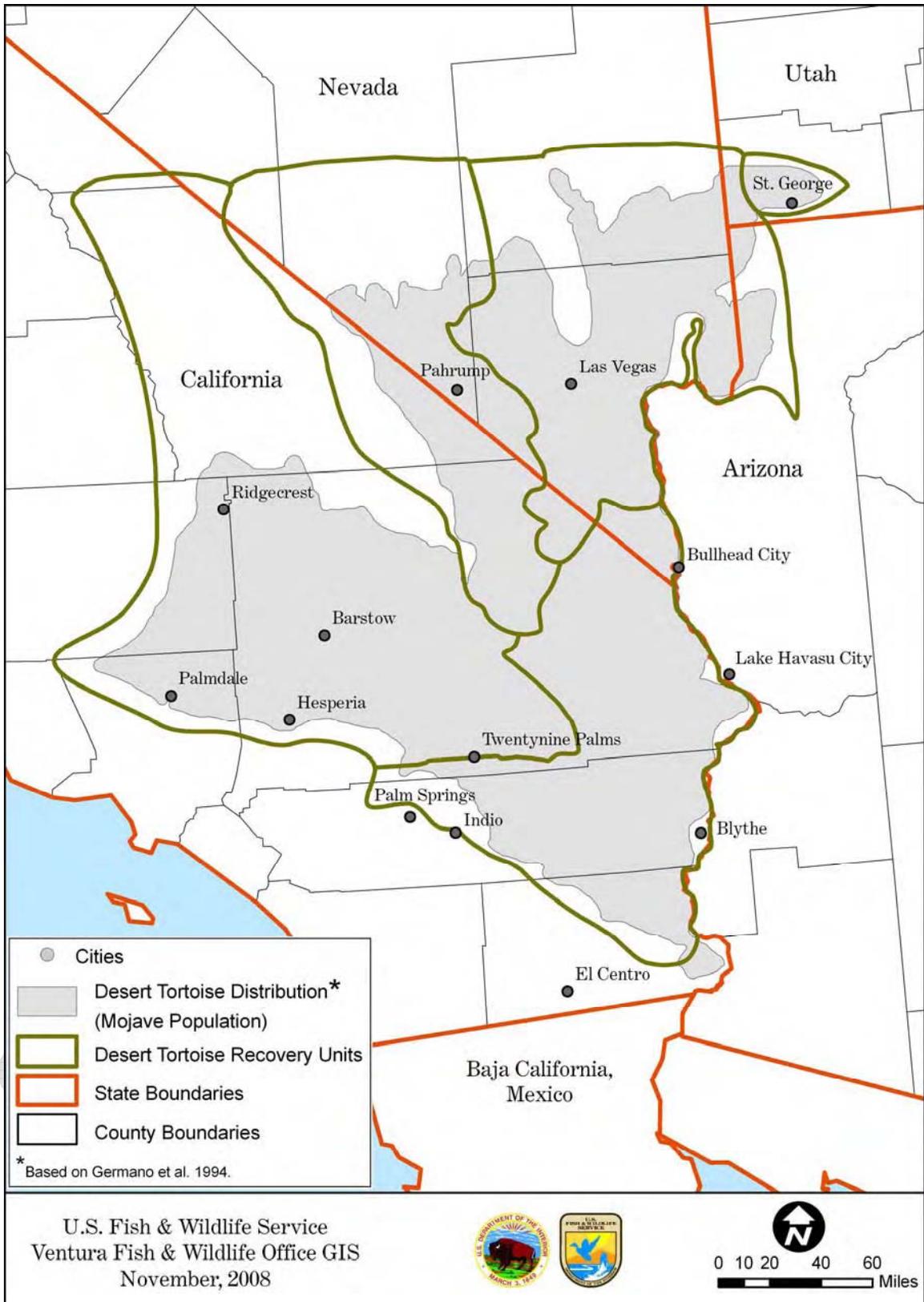


Figure 1: Known Range of the Desert Tortoise (Mojave Population)

## Pre-project Field Survey Protocol for Potential Desert Tortoise Habitats

### Objectives of survey

- Determine presence or absence of desert tortoises within the action area
- Estimate the number of tortoises (abundance) within the action area
- Assess the distribution of tortoises within the action area to inform take avoidance and minimization

The **action area** is defined by regulation as all areas to be affected directly or indirectly and not merely the immediate area involved in the action (50 CFR §402.02). The action area is not limited to the "footprint" of the action or jurisdiction. Rather, it is a biological determination of the reach of the proposed action on listed species.

### Field Methods

This protocol takes into account the fact that not all tortoises within the action area are seen by the surveyor. Provided is an equation which accounts for tortoises that are below ground at the time of surveys and for above-ground tortoises that are cryptic and may be missed.

$$\left( \begin{array}{c} \text{Estimated number of tortoises} \\ \text{within action area} \end{array} \right) = \frac{\left( \begin{array}{c} \text{Number of tortoises} \\ \text{observed above ground} \end{array} \right)}{\left( \begin{array}{c} \text{Probability that} \\ \text{a tortoise is} \\ \text{above ground (P}_a\text{)} \end{array} \right) \left( \begin{array}{c} \text{Probability of} \\ \text{detecting a tortoise,} \\ \text{if above ground (P}_d\text{)} \end{array} \right)} \left( \begin{array}{c} \text{Action area} \\ \text{Area surveyed} \end{array} \right)$$

Surveys of 100% coverage, or probabilistic sampling where appropriate, should utilize this equation to estimate the number of tortoises within the action area (see below; Table 1, P<sub>a</sub> and P<sub>d</sub>).

- Information to determine presence/absence *and* estimate number of tortoises within the action area is collected during the same survey effort. Surveyed objects include all tortoises that are above ground (both out of burrows and within burrows but still visible), as well as all tortoise sign (burrows, scats, carcasses, etc). Record all locations of tortoises and sign encountered during the survey effort using the USFWS 2009 Desert Tortoise Pre-Project Survey Data Sheet (attached). Please submit a copy of the original datasheets with results of the survey to your local USFWS office.
- Surveys should be conducted during the tortoise's most active periods (April through May or September through October) (Nussear and Tracy 2007; Inman 2008; USFWS 2009). Surveys outside these time periods may be approved by USFWS, and CDFG in California (e.g., warm weather in March or rainfall in August stimulating increased tortoise activity).
- Desert tortoises utilize burrows to avoid daily and annual thermal extremes (Woodbury and Hardy 1948). Therefore, surveys should take place when air temperatures are below 40°C (104°F) (Zimmerman et al. 1994; Walde et al. 2003; Inman 2008). Air temperature is measured ~5-cm from the soil surface in an area of full sun, but in the shade of the observer.
- Ten-meter (~30-ft) wide belt transects should be used during surveys. For all projects, surveys which cover the entire project area with the 10-m belt transects (100% coverage) are always an acceptable option. For very large action areas, probabilistic sampling may also be an option, such that the appropriate proportion of the action area is surveyed (Table 2). If probabilistic sampling is an option for the project site, each transect should be chosen either systematically or randomly ensuring that the entire action area has an equal probability of being included in the sample. Transects should be completed in a random order, oriented in a logistically convenient pattern (e.g., lines, squares, or triangles). Any sampling design other than simple systematic or random sampling must be approved by USFWS (e.g. stratification). See *Frequently Asked Questions* section for a discussion of 100% coverage and probabilistic sampling.
- USFWS considers the results of a pre-project survey to be valid for no more than one year. If survey results are older than one year, please contact the local USFWS office.

*Presence or absence of desert tortoises within the project vicinity*

- Occurrence of either live tortoises or tortoise sign (burrows, scats, and carcasses) in the action area indicates desert tortoise presence and therefore requires formal consultation with USFWS.
- If neither tortoises nor sign are encountered during the action area surveys and the project, or any portion of project, is  $\leq 0.8 \text{ km}^2$  (200 acres) or linear, three additional 10-m (~30-ft) belt transects at 200-m (~655-ft) intervals parallel to and/or encircling the project area perimeter (200-m, 400-m, and 6000-m from the perimeter of the project site) should be surveyed. These transects are employed only as part of the presence/absence determination; they are not included in the estimation of tortoise abundance. See *Frequently Asked Questions* section below for an explanation of why additional surveys are needed.
- If neither tortoises nor sign are encountered during the action area surveys, as well as project perimeter surveys where appropriate, please contact your local USFWS office. Informal consultation with the USFWS may be required even though no desert tortoises or sign are found during surveys.

*Number of tortoises within the action area*

The attached Table 3 spreadsheet will estimate the number of adult tortoises (>160 mm MCL) within the action area using the “Number of tortoises within the action area” equation from above.

Enter the requested information into the Table 3 spreadsheet, as follows:

1. Enter the total project area.
2. Enter the appropriate value from Table 1 for the term “probability that a tortoise is above ground” ( $P_a$ ).
3. Enter the number of adult tortoises (>160-mm midline carapace length) found during the survey of the action area for the term “number of tortoises observed above ground” (n).

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**Table 1.** Probability that a desert tortoise is above ground ( $P_a$ ) relative to the previous winter’s rainfall (October through March)

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*Use amount of rainfall from the winter preceding the pre-project survey to determine which value of  $P_a$  is appropriate for the project*

*To find this amount of rainfall, go to the Western Regional Climate Center site:*

*<http://www.wrcc.dri.edu/summary/Climsmsca.html>; click on your location and scroll down to “monthly totals”*

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Previous Winter Rain	Probability ( $P_a$ )	Variance( $P_a$ )
<40 mm (~1.5 inches)	0.64	0.08
$\geq$ 40 mm (~1.5 inches)	0.80	0.05

---

The estimate for the term “probability of detecting a tortoise if above ground ( $P_d$ )” is already included in spreadsheet Table 3 ( $P_d = 0.63$ ; variance = 0.011). See *Frequently Asked Questions* section below for how  $P_a$  and  $P_d$  and their associated variances were estimated.

See *Appendix 1* for a detailed description of the method used to estimate desert tortoise abundance.

*100% Coverage or Probabilistic Sampling?*

100% coverage surveys are always an acceptable option, regardless of the size of the action area. For very large action areas, probabilistic sampling may be an additional option, such that the appropriate proportion of the action area is surveyed as detailed below.

**For the 2009 field season, probabilistic sampling is not an option for desert tortoise pre-project surveys in California due to the requirement of CESA to avoid, minimize, and fully mitigate (CDFG code section 2081).**

**Table 2.** Is probabilistic sampling an appropriate option for the proposed action area?

*Is your action area smaller than the area given below for the recovery unit in which the project occurs?*

Recovery Unit	Threshold Action Area to Allow Sampling
Western Mojave	7.2 km <sup>2</sup> (1777 acres)
Eastern Mojave	10.8 km <sup>2</sup> (2676 acres)
Colorado Desert	6.4 km <sup>2</sup> (1573 acres)
Northeastern Mojave	23.3 km <sup>2</sup> (5764 acres)
Upper Virgin River	2.0 km <sup>2</sup> (490 acres)

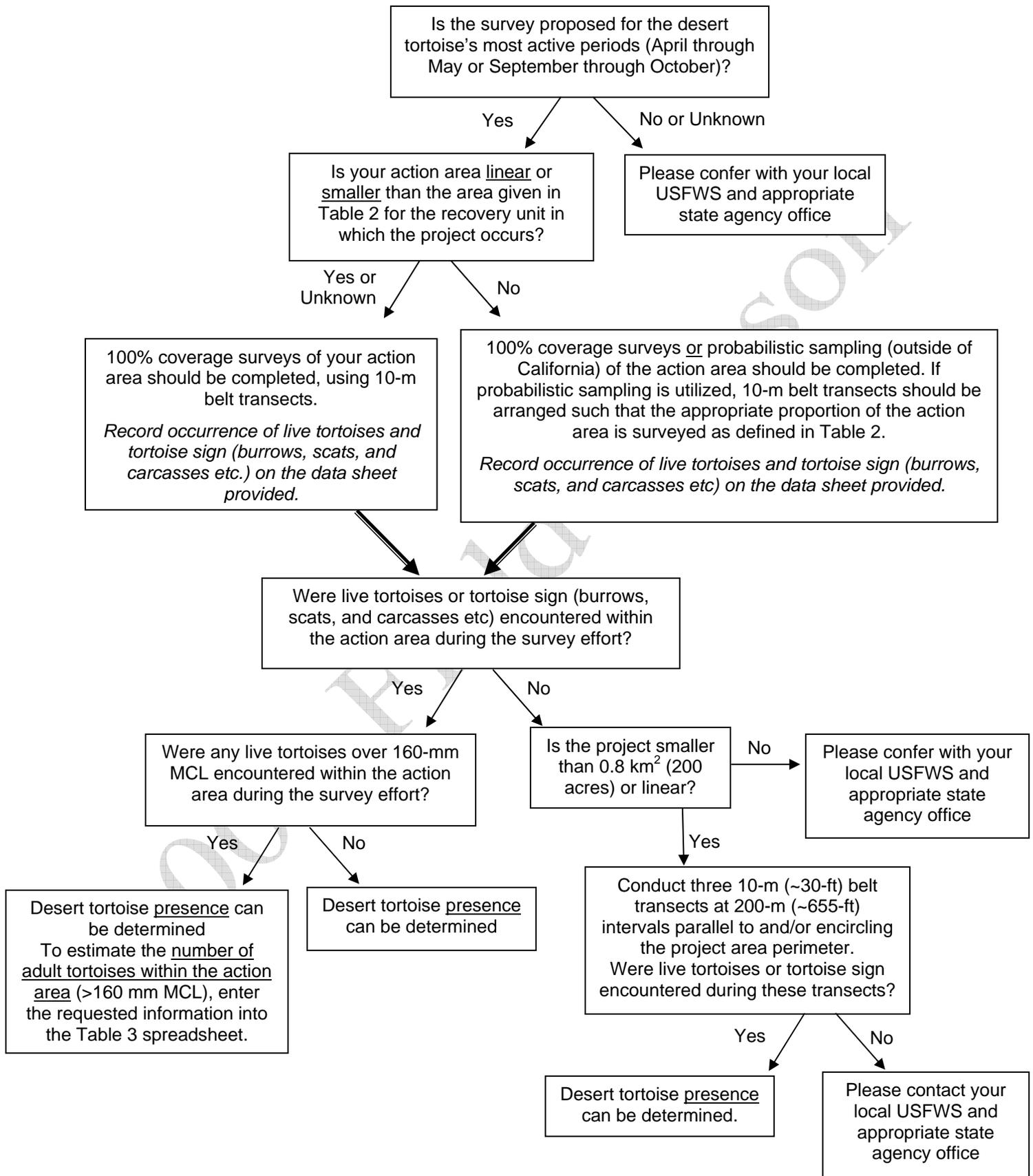
*If yes: 100% coverage surveys of your action area must be completed.*

*If no, total transect lengths that must be surveyed are given below. 100% coverage surveys are also an option, regardless of the size of the project.*

Recovery Unit	Total Transect Length (km) to Sample
Western Mojave	719
Eastern Mojave	1083
Colorado Desert	637
Northeastern Mojave	2333
Upper Virgin River	198

2009 Field Season

**Decision Tree for Pre-project Field Survey Protocol for Potential Desert Tortoise Habitats**



## **Frequently Asked Questions: Desert Tortoise Pre-project Field Survey Protocol**

### ***Why did USFWS revise the 1992 USFWS Desert Tortoise Pre-project Survey Protocol?***

Desert tortoises occur at low densities across most of the Mojave Desert (USFWS 2006). They are cryptic and spend much of their time underground in burrows (Burge 1977; Nagy and Medica 1986; Bulova 1994) and therefore not all animals within an area will be seen by even the best trained surveyors. Tortoises underground in burrows, as well as individuals hidden above ground, need to be included in estimates.

The 1992 USFWS Desert Tortoise Pre-project Survey protocol was based on a Bureau of Land Management protocol from the mid-1970s, which utilized the best available information at the time, but did not take into account that some tortoises will be underground and missed during the survey effort. The data collected during the extensive USFWS range-wide monitoring program (currently <7,000-km of transects each year; USFWS 2006) have allowed us to improve pre-project survey methods. Data about the proportion of tortoises underground in burrows, as well as the probability that an above-ground tortoise will be observed by the surveyor are included in the estimate of the number of tortoises within the action area ( $P_a$  and  $P_d$ ).

This protocol also addresses the potential for using probabilistic sampling when the action area is above the size limits given in Table 2. 100% coverage surveys are *always* an acceptable option, regardless of the size of the action area. For very large action areas, sampling may be an additional option, such that the abundance estimates can be calculated when an appropriate proportion of the action area is surveyed. Estimates of tortoise densities within recovery units from the range-wide monitoring program have been used to calculate how many km<sup>2</sup> of a project site must be surveyed to produce a statistically robust abundance estimate (Table 2).

### ***What happened to the zone of influence transects recommended in the 1992 protocol?***

This revised protocol requires that the entire action area, rather than just the project footprint, be included in the survey effort. The **action area** is defined by regulation as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50 CFR §402.02). The action area is therefore not limited to the “footprint” of the project nor is it limited by the Federal agency’s authority. Rather, the action area is a biological determination of the reach of the proposed action on listed species, which must, by definition, encompass the zone of influence of the project.

### ***How did USFWS determine the values for the “probability that a tortoise is above ground”?***

The USFWS range-wide monitoring program estimated the proportion of the desert tortoise population that is visible using telemetered animals from focal areas in spring 2001-2005 (USFWS 2006). This probability is related to the previous winter’s rainfall, as illustrated in Table 1. The range of fall above-ground activity is similar to spring numbers, but the variability is much higher (Nussear and Tracy 2007; Inman 2008). Until more robust estimates of fall above-ground activity are available, spring estimates based on the previous winter’s rainfall (October through March) are used for surveys conducted in either active period.

### ***How did USFWS establish the value for the “probability of detecting a tortoise, if above ground”?***

For the past five years, surveyors in the USFWS range-wide monitoring program have undergone training on established transects with artificial tortoises. Trained surveyors detected an average of ~63% of model tortoises that were within 5-m of either side of the transect center-line (USFWS unpublished).

### ***Why are only tortoises over 160-mm MCL used to estimate the number of tortoises within the action area?***

The values of  $P_a$  and  $P_d$  used in the equation to estimate the number of tortoises within the action area are based on USFWS range-wide monitoring data collected for adult tortoises  $\geq 160$ -mm MCL.

***What is the purpose of 100% coverage surveys versus probabilistic sampling?***

The purpose of surveying is to determine presence/absence and estimate the abundance of desert tortoises within the action area. For 100% coverage surveys, transects are placed across the entire action area; thus, the entire area for which abundance is estimated is surveyed. A probabilistic sampling approach, on the other hand, uses data from randomly or systematically placed transects to draw inferences about locations where surveys are not conducted. All locations for which abundance will be estimated *must* have an equal probability of being included in the sample.

***How were the threshold project sizes calculated for determining whether 100% coverage or probabilistic sampling is appropriate?***

The validity of probabilistic sampling requires that all locations for which abundance will be estimated have an equal probability of being included in the sample, as well as the expected sample size. Estimating the number of tortoises within the project area using probabilistic sampling is limited by the number of tortoises encountered during the survey effort. Therefore, whether or not the project area must be surveyed using 100% coverage or can be probabilistically sampled is based on the area expected to yield a survey count of 20 tortoises (Krzysik 2002). Table 2 uses tortoise densities and detection probabilities estimated from 2001-2005 range-wide line-distance sampling efforts for each tortoise Recovery Unit (USFWS 2006) to calculate that area of a project site that must be surveyed to produce a statistically robust estimate. If the project area is large enough to allow the option of probabilistic sampling, Table 2 provides the minimum transect kilometers (10-m wide) that must be surveyed.

***What if the minimum length of 10-m wide transect kilometers are completed but 20 tortoises were not found in the action area?***

If probabilistic sampling is used and < 20 tortoises are found after surveying the total transect length prescribed by Table 2, number of tortoises within the action area may be estimated using number found.

***Do I keep surveying if 20 tortoises are found before the minimum transect kilometers that must be surveyed are completed?***

If probabilistic sampling was used and the transects have been completed in a random order, project area surveys may be considered complete when 20 tortoises have been found or the specified number of kilometers have been sampled, whichever happens first. It is okay if more than 20 tortoises are found, this will decrease the width of the 95% confidence interval for the abundance estimate.

***Why do small and linear projects where no tortoises were found have to do additional surveys at 150-m (~500-ft) intervals parallel to the project area perimeter?***

Even though neither tortoises nor tortoise sign were found within the action area at the time of the survey, the area may be part of an animal's home range. The home range of a female desert tortoise averages around 0.15 to 0.16 km<sup>2</sup> (35 to 40 acres), about one third the size of male home ranges, which are variable and can be > 2 km<sup>2</sup> (O'Conner et al. 1994; Duda et al. 1999; Harless et al. In press). Therefore, projects that are ≤ 0.8 km<sup>2</sup> (200 acres) or linear may overlap only part of a tortoise's home range and the possibility that a resident tortoise was outside the project area at the time surveys were conducted must be addressed. In these cases, USFWS recommends three additional 10-m (~30-ft) belt transects at 200-m (~655-ft) intervals parallel to and/or encircling the project area perimeter (200-m, 400-m, and 600-m from the perimeter of the project site). Record any tortoises or sign encountered during these surveys. These transects are employed only as part of the presence/absence determination; they are not included in the estimation of tortoise abundance within the project area.

***What does the 95% confidence interval for the number of tortoises within the action area mean?***

Confidence intervals are used to indicate the reliability of an estimate. The interval gives an estimated range of values, calculated from a set of sample data, which is likely to include an unknown population parameter (in this case, the true number of tortoises within the action area). A wider confidence interval indicates that less certainty is associated with the estimate (see Appendix 2). The Table 3 spreadsheet calculates the abundance and associated 95% confidence interval for the estimated number of tortoises within the project area (Buckland et al. 2001).

## Acknowledgments

The USFWS Desert Tortoise Recovery Office is grateful to the many individuals and agencies that were instrumental in development and review of this revised protocol. Specifically, we thank Jim Nichols (USGS) and Tony Krzysik (Prescott Audubon Society) for assistance with concept design; Alice Karl (independent tortoise biologist) and Andrew Thompson (USFWS) for development discussion, and Kirk Waln (USFWS) for GIS support.

This protocol has undergone extensive review. We would like to thank the 2008/2009 USFWS desert tortoise coordination group (Ashleigh Blackford, Ray Bransfield, Michael Burroughs, Renee Chi, Brian Croft, Tannika Engelhard, Tyler Grant, Michael Glenn, Judy Hohman, Leilani Takano, and Brian Wooldridge) for invaluable thoughts and suggestions. We would also like to thank Bob Steidl (University of Arizona), Kathy Ralls (Smithsonian National Zoo), Alice Karl (independent tortoise biologist), Andrew Thompson (USFWS), Bill Boarman (Conservation Science Research & Consulting), Phil Medica (USGS), Paulette Conrad (NDOW), Steve Ferrand (Nevada Biological Consulting), and the California Department of Fish and Game (including Kim Nicol, Julie Vance, Scott Flint, and Becky Jones) for insightful comments on the document.

2009 Field Seas

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## Appendix 1. Detailed description of desert tortoise abundance and CI estimation

The estimated abundance of adult desert tortoises within the action area is given by:

$$\left( \begin{array}{c} \text{Estimated number of tortoises} \\ \text{within action area} \end{array} \right) = \frac{\left( \begin{array}{c} \text{Number of tortoises} \\ \text{observed above ground} \end{array} \right)}{\left( \begin{array}{c} \text{Probability that} \\ \text{a tortoise is} \\ \text{above ground} \end{array} \right) \left( \begin{array}{c} \text{Probability of} \\ \text{detecting a tortoise,} \\ \text{if above ground} \end{array} \right)} \left( \begin{array}{c} \text{Action area} \\ \text{Area surveyed} \end{array} \right),$$

which is equivalent to:

$$\hat{N} = \left[ \frac{(n)}{(Table2)(0.63)} \right] \left[ \frac{(A)}{(a)} \right],$$

where  $\hat{N}$  = estimated abundance within entire action area,  $n$  = number of tortoises observed above ground,  $A$  = total action area, and  $a$  = actual area surveyed (= total # km surveyed \* 0.01). For 100% coverage surveys,  $A/a = 1$ .

Table 3 uses the following equations to calculate the 95% confidence interval for the estimate of tortoise abundance within the action area (Buckland et al. 2001), assuming all replicate transect lines are the same length, 10-km.

$$\text{var}(\hat{n}) = L \sum_{i=1}^k l_i \left( \frac{n_i - n}{l_i - L} \right)^2 / (k - 1)$$

where  $\text{var}(\hat{n})$  = the spatial variation in the number of tortoises detected through the total transect length  $L$ ,  $n_i$  = the number of tortoises seen on transect  $i$ ,  $l_i$  = the length of individual transect  $i$ , and  $k$  = total number of transects walked.

Putting the sources of variability together, the variance of density is:

$$\text{var} \hat{D} = \hat{D}^2 \left[ \frac{\text{var}(n)}{n^2} + \frac{\text{var}(\hat{P}_a)}{(\hat{P}_a)^2} + \frac{\text{var}(\hat{P}_d)}{(\hat{P}_d)^2} \right]$$

Because the tortoise density sampling distribution is positively skewed, the confidence interval is calculated using a log-distribution for density and built with division and multiplication, rather than addition and subtraction from the mean as with a symmetrical interval (Buckland et al. 2001).

Thus, the 95% confidence interval for  $\hat{N}$  is:

$$\left( \hat{N} / C_N, \hat{N} \cdot C_N \right),$$

$$\text{where } C_N = \exp \left[ z_{\alpha} \sqrt{\text{var}(\log_e \hat{D})} \right] \text{ and } \text{var}(\log_e \hat{D}) = \log_e \left[ 1 + \frac{\text{var}(\hat{D})}{\hat{D}^2} \right].$$

Given the simplifying assumptions in this protocol, the 95% confidence interval around the estimated number of tortoises within the action area will be wide (e.g., the estimate of the number of tortoises will be imprecise). While this level of imprecision would not be appropriate for recovery planning and decision making at large scales, this protocol provides estimates at local scales that most efficiently utilize the best information that is available to provide statistically defensible results.

## Appendix 2. Example

Project location = near Beatty, NV (within the Eastern Mojave RU)

Action area = 12 km<sup>2</sup> (3,000 acres)

According to this protocol's Site Assessment key, the proposed action is within the known range of the desert tortoise. The local USFWS and appropriate state agency offices were contacted and a species list, which includes the desert tortoise, was obtained for the action area. Therefore, pre-project survey and consultation are necessary.

The project footprint is only 10 km<sup>2</sup>, but since the project will include blasting, the reach of the proposed action on listed species extends to 12 km<sup>2</sup>. Thus, the action area (and therefore the area which needs to be surveyed for desert tortoises) is 12 km<sup>2</sup> (which is more inclusive than the 10 km<sup>2</sup> project footprint).

According to Table 2 of the pre-project survey protocol, the project size of 12 km<sup>2</sup> is above the threshold project area to allow probabilistic sampling in the Western Mojave RU (10.8 km<sup>2</sup> threshold). Therefore, at a minimum, 1,083 km of transects must be walked. For this example, 108 10-km transects (10-m wide) were placed systematically across the project site and were completed in a random order. Surveys of 100% coverage in which 10-m wide transects were placed across the entire 12 km<sup>2</sup> action area would also have been acceptable.

Transects totaling 1,083 km were conducted and 19 adult tortoises (> 160 mm carapace length) were found (as well as tortoise sign, both of which were catalogued using the USFWS 2009 DT pre-project survey protocol data sheet). If 20 adult tortoises had been encountered before the 1,083 km of transects were completed, and transects were conducted in a random order, then surveys could have been considered complete after the 20<sup>th</sup> tortoise was catalogued.

Data collected from the 108 transects (live animals encountered <160-mm MCL)

Number of tortoises (n <sub>i</sub> )	Number of transects on which n <sub>i</sub> tortoises were seen
0	93
1	11
2	4

Using the Western Regional Climate Center website, it was determined that the Beatty area had received 97-mm (3.8 inches) of rain in the October through March preceding the survey effort, which is above the 40-mm (1.5 inches) in Table 1. Therefore, P<sub>a</sub> of 0.80 will be used in this estimation.

Thus, from

$$\hat{N} = \left[ \frac{(n)}{(Table2)(0.63)} \right] \left[ \frac{(A)}{(a)} \right], \text{ we get } \hat{N} = \left[ \frac{(19)}{(0.80)(0.63)} \right] \left[ \frac{(12 \text{ km}^2)}{(10.8 \text{ km}^2)} \right], \text{ or } \hat{N} \approx 42 \text{ tortoises}$$

$$\text{Density} = \frac{(\hat{N})}{(A)}, \text{ we get } \hat{D} = \frac{(42)}{(12 \text{ km}^2)}, \text{ or } \hat{D} \approx 3.5 \text{ tortoises/km}^2$$

To calculate the 95% confidence interval for our abundance estimate, we use:

$$\text{var}(\hat{n}) = L \sum_{i=1}^k l_i \left( \frac{n_i}{l_i} - \frac{n}{L} \right)^2 / (k-1),$$

$$\text{we get } \text{var}(\hat{n}) = 1080 \left[ (93)(10) \left( \frac{0}{10} - \frac{19}{1080} \right)^2 + (11)(10) \left( \frac{1}{10} - \frac{19}{1080} \right)^2 + (4)(10) \left( \frac{2}{10} - \frac{19}{1080} \right)^2 \right] / (108-1), \text{ or}$$

$$\text{var}(\hat{n}) = 23.88$$

And for,

$$\text{var } \hat{D} = \hat{D}^2 \left[ \frac{\text{var}(n)}{n^2} + \frac{\text{var}(\hat{P}_a)}{(\hat{P}_a)^2} + \frac{\text{var}(\hat{P}_d)}{(\hat{P}_d)^2} \right], \text{ we get } \text{var } \hat{D} = 3.5^2 \left[ \frac{23.88}{19^2} + \frac{0.05}{0.80^2} + \frac{0.011}{0.63^2} \right], \text{ or } \text{var } \hat{D} = 2.107$$

Using our log-transformation because the tortoise density sampling distribution is positively skewed,

$$\text{var}(\log_e \hat{D}) = \log_e \left[ 1 + \frac{\text{var}(\hat{D})}{\hat{D}^2} \right], \text{ we get } \text{var}(\log_e \hat{D}) = \log_e \left[ 1 + \frac{2.107}{3.5^2} \right], \text{ or } \text{var}(\log_e \hat{D}) = 0.15$$

Then,

$$C_N = \exp \left[ z_{\alpha} \sqrt{\text{var}(\log_e \hat{D})} \right], \text{ we get } C_N = \exp \left[ (1.96) \sqrt{0.15} \right], \text{ or } C_N = 2.18$$

And,

$$(\hat{N} / C_N, \hat{N} \cdot C_N), \text{ we get } ((42 / 2.18), (42 \cdot 2.18)), \text{ or } \sim (19, 92).$$

### Summary

Using the Site Assessment key, it was determined that survey and consultation were necessary for the proposed action. Thus, the pre-project field survey protocol was implemented. In this case, probabilistic sampling with equal length transects (10-km long) was used and 19 adult tortoises and tortoise sign were found during the sampling of the action area, indicating presence. Using the equations and data presented in Appendix 1 of this protocol, Table 3 estimated the actual number of tortoises within the project was estimated to be ~42, with a 95% confidence interval of ~(19, 92).

**USFWS 2009 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET**

Date of survey: \_\_\_\_\_ Survey biologist(s): \_\_\_\_\_  
(day, month, year)

Site description: \_\_\_\_\_  
(project name and size; general location)

County: \_\_\_\_\_ Quad: \_\_\_\_\_ Location: \_\_\_\_\_  
(UTM coordinates, lat-long, and/or TRS; map datum)

Transect #: \_\_\_\_\_ Transect length: \_\_\_\_\_ Type of survey: \_\_\_\_\_  
(project area size to be surveyed; 100% coverage/probabilistic sampling)

GPS Start-point: \_\_\_\_\_ Start time: \_\_\_\_\_ am/pm  
(easting, northing, elevation in meters)

GPS End-point: \_\_\_\_\_ End time: \_\_\_\_\_ am/pm  
(easting, northing, elevation in meters)

Start Temp: \_\_\_\_\_ °C Weather: \_\_\_\_\_

End Temp: \_\_\_\_\_ °C

**Live Tortoises**

Detection number	GPS location		Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL >160-mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
	Easting	Northing				
1						
2						
3						
4						
5						
6						
7						
8						

**Tortoise Sign (burrows, scats, carcasses, etc)**

Detection number	GPS location		Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
	Easting	Northing		
1				
2				
3				
4				
5				
6				
7				
8				

Page: \_\_\_\_\_ of \_\_\_\_\_

Date of survey: \_\_\_\_\_

Transect number: \_\_\_\_\_



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
Carlsbad Fish and Wildlife Office  
2730 Loker Avenue West  
Carlsbad, California 92008



### LEAST BELL'S VIREO SURVEY GUIDELINES

JAN 1 9 2001

The following suggested guidelines are provided to facilitate accurate assessments of the presence/absence of the State and federally endangered least Bell's vireo (*Vireo bellii pusillus*, vireo), to provide the Fish and Wildlife Service with sufficient information to adequately respond to requests for applicable Federal permits and licenses, and to fulfill our mandate to conserve and recover the species. Currently, a recovery permit pursuant to section 10(a)(1)(A) of the Endangered Species Act is not required to conduct presence/absence surveys for the vireo, as long as this protocol is utilized and vocalization tapes are not used. These guidelines include minor modifications to our February 1992 guidelines and provide clarification of what we have been verbally recommending.

1. Under normal circumstances, all riparian areas and any other potential vireo habitats should be surveyed at least eight (8) times during the period from April 10 to July 31. However, we may concur, on a case by case basis, with a reduced effort if unusual circumstances dictate that this is a prudent course of action. For instance, intensive surveys of small, marginal or extralimital habitats by experienced personnel may well result in defensible conclusions that eight (or more) individual survey are unnecessary. Under such unusual circumstances, we will consider requests for reductions in the prescribed number of individual surveys. In any case, site visits should be conducted at least 10 days apart to maximize the detection of, for instance, late and early arrivals, females, particularly "non vocal" birds of both sexes, and nesting pairs.
2. Although the period from April 10 to July 31 encompasses the period during which most vireo nesting activity occurs, eight surveys are generally sufficient to detect most (if not all) vireo adults in occupied habitats. Precise vireo censuses and estimations of home range likely will not be possible unless surveys are conducted outside of this time window. Although focused surveys conducted in accordance with these guidelines substantially reduce the risk of an unauthorized take\* that could potentially occur as a result of land development or other projects, individual project proponents may wish to conduct surveys that are more rigorous than those that would otherwise result from strict adherence to these survey guidelines. If additional information (e.g., extent of occupied habitat, total numbers of adult and juvenile vireos in study area) is desired or necessary, surveys should be extended to August 31 and conducted in such a manner as to collect the data necessary to prepare reports that reflect the methods and standards established in the current scientific literature on this subject. In particular, information collected after July

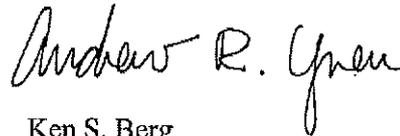
15 will reflect a broader extent to the riparian habitat and other adjacent habitat types that the vireo typically utilizes during the latter phase of the breeding season, especially when the young become independent of the adults.

3. Surveys should be conducted by a qualified biologist familiar with the songs, whisper songs, calls, scolds, and plumage characteristics of adult and juvenile vireos. These skills are essential to maximize the probability of detecting vireos and to avoid potentially harassing the species in occupied habitats.
4. Surveys should be conducted between dawn and 11:00 a.m. Surveys should not be conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather that individually or collectively may reduce the likelihood of detection.
5. Surveyors should not survey more than 3 linear kilometers or more than 50 hectares of habitat on any given survey day. Although surveyors should generally station themselves in the best possible locations to hear or see vireos, care should be taken not to disturb potential or actual vireo habitats and nests or the habitat of any sensitive or listed riparian species.
6. All vireo detections (e.g., vocalization points, areas used for foraging, etc.) should be recorded and subsequently plotted to estimate the location and extent of habitats utilized. These data should be mapped on the appropriate USGS quadrangle map.
7. Data pertaining to vireo status and distribution (e.g., numbers and locations of paired or unpaired territorial males, ages and sexes of all birds encountered) should be noted and recorded during each survey. In addition, surveyors should look for leg bands on vireo adults and juveniles if, in fact, it is possible to do so without disturbing or harassing the birds. If leg bands or other markers are observed, then surveyors should record and report the detection and associated circumstances to us by telephone, facsimile, or electronic mail as soon as possible. Reports should include the colors and relative locations of any and all bands detected, the age and sex of the marked bird, and the precise location of the detection.
8. The numbers and locations of all brown-headed cowbirds (*Molothrus ater*) detected within vireo territories should be recorded during each survey and subsequently reported to us. In addition, all detections of the State and federally endangered southwestern willow flycatcher (*Empidonax trallii extimus*, flycatcher) and State endangered yellow-billed cuckoo (*Coccyzus americanus*, cuckoo) should be recorded and reported. Any and all cuckoo and flycatcher adults, young, or nests should not be approached, and taped vocalizations of these species should not be used unless authorized in advance by scientific permits to take\* issued by us (if appropriate) and the California Department of Fish and Game. Flycatcher presence/absence surveys require a recovery permit issued by us per section 10(a)(1)(A) of the Endangered Species Act.

9. To avoid the potential harassment of vireos, flycatchers, and cuckoos resulting from vireo surveys, other riparian species survey efforts, or multiple surveys within a given riparian habitat patch, detections of these three species should be reported to us as soon possible by telephone, facsimile, or electronic mail.
10. A final report (including maps) should be prepared that depicts survey dates and times and includes descriptions or accounts of the methods, locations, data and information identified in preceding sections.
11. This final report should be provided to us (at the letterhead address) and to the local office of the Department of Fish and Game within 45 calendar days following the completion of the survey effort. Additionally, a summary of all vireo survey efforts conducted during the calendar year should be submitted to each of the above offices by January 31 of the following year.

Should you have data or information to report, or have any questions regarding these survey guidelines, please contact Christine Moen ([christine\\_moen@fws.gov](mailto:christine_moen@fws.gov)), or Loren Hays ([loren\\_hays@fws.gov](mailto:loren_hays@fws.gov)) of my staff at (760) 431-9440 (facsimile 760-431-9624), or John Gustafson ([jgustafs@hq.dfg.ca.gov](mailto:jgustafs@hq.dfg.ca.gov)) with the Department of Fish and Game at (916) 654-4260 (facsimile 916-653-1019).

Sincerely,



Ken S. Berg  
Acting Field Supervisor

\* The term "take," as defined in Section 3, paragraph 18 of the Endangered Species Act of 1973 as amended (Act), means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. "Take" (specifically "harass") is further defined to mean "an act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, which include, but are not limited to, breeding, feeding, and sheltering" "Take" (specifically "harm") is further defined as an "act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding feeding or sheltering" (50 CFR 17.3). Please be advised that the take of the vireo and other listed species is prohibited by section 9 of the Act unless authorized by permits issued pursuant to section 7 or section 10 to the Act.

## **Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants**

January, 2000

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed, or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.
2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations(s) is not available, investigators should study specimens from local herbaria.
3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.
4. Report results of botanical field inventories that include:
  - a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species
  - b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name
  - c. survey dates and survey methodology(ies)
  - d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made
  - e. a comprehensive list of all vascular plants occurring on the project site for each habitat type
  - f. current and historic land uses of the habitat(s) and degree of site alteration

g. presence of target species off-site on adjacent parcels, if known

h. an assessment of the biological significance or ecological quality of the project site in a local and regional context

5. If target species is(are) found, report results that additionally include: a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors. c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports. d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.

6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base maintained by the Natural Heritage Division of the California Department of Fish & Game. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.

7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than 3 years from the current date of project proposal submission will likely need additional survey.

8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.

BURROWING OWL SURVEY PROTOCOL  
AND MITIGATION GUIDELINES

Prepared by:

The California Burrowing Owl Consortium

April 1993

## INTRODUCTION

The California Burrowing Owl Consortium developed the following Survey Protocol and Mitigation Guidelines to meet the need for uniform standards when surveying burrowing owl (*Speotyto cunicularia*) populations and evaluating impacts from development projects. The California Burrowing Owl Consortium is a group of biologists in the San Francisco Bay area who are interested in burrowing owl conservation. The following survey protocol and mitigation guidelines were prepared by the Consortium's Mitigation Committee. These procedures offer a decision-making process aimed at preserving burrowing owls in place with adequate habitat.

California's burrowing owl population is clearly in peril and if declines continue unchecked the species may qualify for listing. Because of the intense pressure for development of open, flat grasslands in California, resource managers frequently face conflicts between owls and development projects. Owls can be affected by disturbance and habitat loss, even though there may be no direct impacts to the birds themselves or their burrows. There is often inadequate information about the presence of owls on a project site until ground disturbance is imminent. When this occurs there is usually insufficient time to evaluate impacts to owls and their habitat. The absence of standardized field survey methods impairs adequate and consistent impact assessment during regulatory review processes, which in turn reduces the possibility of effective mitigation.

These guidelines are intended to provide a decision-making process that should be implemented wherever there is potential for an action or project to adversely affect burrowing owls or the resources that support them. The process begins with a four-step survey protocol to document the presence of burrowing owl habitat, and evaluate burrowing owl use of the project site and a surrounding buffer zone. When surveys confirm occupied habitat, the mitigation measures are followed to minimize impacts to burrowing owls, their burrows and foraging habitat on the site. These guidelines emphasize maintaining burrowing owls and their resources in place rather than minimizing impacts through displacement of owls to an alternate site.

Each project and situation is different and these procedures may not be applicable in some circumstances. Finally, these are not strict rules or requirements that must be applied in all situations. They are guidelines to consider when evaluating burrowing owls and their habitat, and they suggest options for burrowing owl conservation when land use decisions are made.

Section 1 describes the four phase Burrowing Owl Survey Protocol. Section 2 contains the Mitigation Guidelines. Section 3 contains a discussion of various laws and regulations that protect burrowing owls and a list of references cited in the text.

We have submitted these documents to the California Department of Fish and Game (CDFG) for review and comment. These are untested procedures and we ask for your comments on improving their usefulness.

## SECTION 1 BURROWING OWL SURVEY PROTOCOL

### PHASE I: HABITAT ASSESSMENT

The first step in the survey process is to assess the presence of burrowing owl habitat on the project site including a 150-meter (approx. 500 ft.) buffer zone around the project boundary (Thomsen 1971, Martin 1973).

#### **Burrowing Owl Habitat Description**

Burrowing owl habitat can be found in annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation (Zarn 1974). Suitable owl habitat may also include trees and shrubs if the canopy covers less than 30 percent of the ground surface. Burrows are the essential component of burrowing owl habitat: both natural and artificial burrows provide protection, shelter, and nests for burrowing owls (Henny and Blus 1981). Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels or badgers, but also may use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement.

#### **Occupied Burrowing Owl Habitat**

Burrowing owls may use a site for breeding, wintering, foraging, and/or migration stopovers. Occupancy of suitable burrowing owl habitat can be verified at a site by an observation of at least one burrowing owl, or, alternatively, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance. Burrowing owls exhibit high site fidelity, reusing burrows year after year (Rich 1984, Feeney 1992). A site should be assumed occupied if at least one burrowing owl has been observed occupying a burrow there within the last three years (Rich 1984).

The Phase II burrow survey is required if burrowing owl habitat occurs on the site. If burrowing owl habitat is not present on the project site and buffer zone, the Phase II burrow survey is not necessary. A written report of the habitat assessment should be prepared (Phase IV), stating the reason(s) why the area is not burrowing owl habitat.

### PHASE II: BURROW SURVEY

1. A survey for-burrows and owls should be conducted by walking through suitable habitat over the entire project site and in areas within 150 meters (approx 500 ft.) of the project impact zone. This 150-meter buffer zone is included to account for adjacent burrows and foraging habitat outside the project area and impacts from factors such as noise and vibration due to heavy equipment which could impact resources outside the project area.

2. Pedestrian survey transects should be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines should be no more than 30 meters (approx. 100 ft.), and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To efficiently survey projects larger than 100 acres, it is recommended that two or more surveyors conduct concurrent surveys. Surveyors should maintain a minimum distance of 50 meters (approx. 160 ft.) from any owls or occupied burrows. It is important to minimize disturbance near occupied burrows during all seasons.
3. If burrows or burrowing owls are recorded on the site, a map should be prepared of the burrow concentration areas. A breeding season survey and census (Phase III) of burrowing owls is the next step required.
4. Prepare a report (Phase IV) of the burrow survey stating whether or not burrows are present.
5. A preconstruction survey may be required by project-specific mitigations no more than 30 days prior to ground disturbing activity.

### **PHASE III: BURROWING OWL SURVEYS, CENSUS AND MAPPING**

If the project site contains burrows that could be used by burrowing owls, then survey efforts should be directed towards determining owl presence on the site. Surveys in the breeding season are required to describe if, when, and how the site is used by burrowing owls. If no owls are observed using the site during the breeding season, a winter survey is required.

#### **Survey Methodology**

A complete burrowing owl survey consists of four site visits. During the initial site visit examine burrows for owl sign and map the locations of occupied burrows. Subsequent observations should be conducted from as many fixed points as necessary to provide visual coverage of the site using spotting scopes or binoculars. It is important to minimize disturbance near occupied burrows during all seasons. Site visits must be repeated on four separate days. Conduct these visits from two hours before sunset to one hour after or from one hour before to two hours after sunrise. Surveys should be conducted during weather that is conducive to observing owls outside their burrows. Avoid surveys during heavy rain, high winds (> 20 mph), or dense fog.

**Nesting Season Survey.** The burrowing owl nesting season begins as early as February 1 and continues through August 31 (Thomsen 1971, Zam 1974). The timing of nesting activities may vary with latitude and climatic conditions. If possible, the nesting season survey should be conducted during the peak of the breeding season, between April 15 and July 15. Count and map all burrowing owl sightings, occupied burrows, and burrows with owl sign. Record numbers of pairs and juveniles, and behavior such as courtship and copulation. Map the approximate territory boundaries and foraging areas if known.

**Survey for Winter Residents (non-breeding owls).** Winter surveys should be conducted between December 1 and January 31, during the period when wintering owls are most likely to be present. Count and map all owl sightings, occupied burrows, and burrows with owl sign.

Surveys Outside the Winter and Nesting Seasons. Positive results, (i.e., owl sightings)- outside of the above survey periods would be adequate to determine presence of owls on site. However, results of these surveys may be inadequate for mitigation planning because the numbers of owls and their pattern of distribution may change during winter and nesting seasons. Negative results during surveys outside the above periods are not conclusive proof that owls do not use the site.

**Preconstruction Survey.** A preconstruction survey may be required by project-specific mitigations and should be conducted no more than 30 days prior to ground disturbing activity.

## **PHASE IV: RESOURCE SUMMARY, WRITTEN REPORT**

A report should be prepared for CDFG that gives the results of each Phase of the survey protocol, as outlined below.

### **Phase I: Habitat Assessment**

1. Date and time of visit(s) including weather and visibility conditions; methods of survey.
2. Site description including the following information: location, size, topography, vegetation communities, and animals observed during visit(s).
3. An assessment of habitat suitability for burrowing owls and explanation.
4. A map of the site.

### **Phase II: Burrow Survey**

1. Date and time of visits including weather and visibility conditions; survey methods including transect spacing.
2. A more detailed site description should be made during this phase of the survey protocol including a partial plant list of primary vegetation, location of nearest freshwater (on or within one mile of site), animals observed during transects.
3. Results of survey transects including a map showing the location of concentrations of burrow(s) (natural or artificial) and owl(s), if present.

### **Phase III: Burrowing Owl Surveys, Census and Mapping**

1. Date and time of visits including weather and visibility conditions; survey methods including transect spacing.
2. Report and map the location of all burrowing owls and owl sign. Burrows occupied by owl(s) should be mapped indicating the number of owls at each burrow. Tracks, feathers, pellets, or other items (prey remains, animal scat) at burrows should also be reported.
3. Behavior of owls during the surveys should be carefully recorded (from a distance) and reported. Describe and map areas used by owls during the surveys. Although not required, all behavior is valuable to document including feeding, resting, courtship, alarm, territorial, parental, or juvenile behavior.
4. Both winter and nesting season surveys should be summarized. If possible include information regarding productivity of pairs, seasonal pattern of use, and include a map of the colony showing territorial boundaries and home ranges.
5. The historical presence of burrowing owls on site should be documented, as well as the source of such information (local bird club, Audubon society, other biologists, etc.).

# Burrowing: Owl Survey Protocol

April 1993

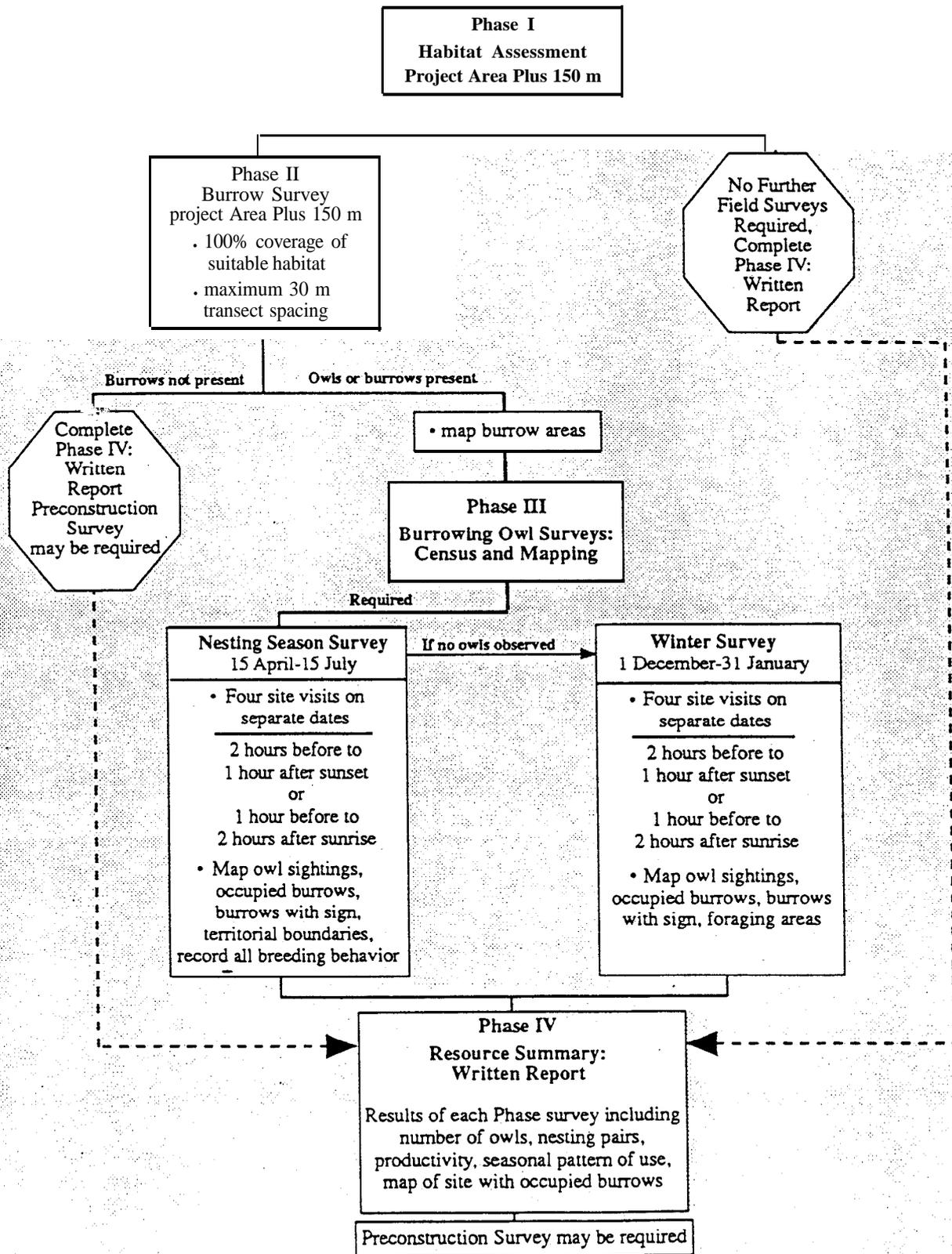


Figure 1.

## SECTION 2 BURROWING OWL MITIGATION GUIDELINES

The objective of these mitigation guidelines is to minimize impacts to burrowing owls and the resources that support viable owl populations. These guidelines are intended to provide a decision-making process that should be implemented wherever there is potential for an action or project to adversely affect burrowing owls or their resources. The process begins with a four-step survey protocol (see *Burrowing Owl Survey Protocol*) to document the presence of burrowing owl habitat, and evaluate burrowing owl use of the project site and a surrounding buffer zone. When surveys confirm occupied habitat, the mitigation measures described below are followed to minimize impacts to burrowing owls, their burrows and foraging habitat on the site. These guidelines emphasize maintaining burrowing owls and their resources in place rather than minimizing impacts through displacement of owls to an alternate site.

Mitigation actions should be carried out prior to the burrowing owl breeding season, generally from February 1 through August 31 (Thomsen 1971, Zarn 1974). The timing of nesting activity may vary with latitude and climatic conditions. Project sites and buffer zones with suitable habitat should be resurveyed to ensure no burrowing owls have occupied them in the interim period between the initial surveys and ground disturbing activity. Repeat surveys should be conducted not more than 30 days prior to initial ground disturbing activity.

### DEFINITION OF IMPACTS

1. Disturbance or harassment within 50 meters (approx. 160 ft.) of occupied burrows.
2. Destruction of burrows and burrow entrances. Burrows include structures such as culverts, concrete slabs and debris piles that provide shelter to burrowing owls.
3. Degradation of foraging habitat adjacent to occupied burrows.

### GENERAL CONSIDERATIONS

1. Occupied burrows should not be disturbed during the nesting season, from February 1 through August 31, unless the Department of Fish and Game verifies that the birds have not begun egg-laying and incubation or that the juveniles from those burrows are foraging independently and capable of independent survival at an earlier date.
2. A minimum of 6.5 acres of foraging habitat, calculated on a 100-m (approx. 300 ft.) foraging radius around the natal burrow, should be maintained per pair (or unpaired resident single bird) contiguous with burrows occupied within the last three years (Rich 1984, Feeney 1992). Ideally, foraging habitat should be retained in a long-term conservation easement.

3. When destruction of occupied burrows is unavoidable, burrows should be enhanced (enlarged or cleared of debris) or created (by installing artificial burrows) in a ratio of 1:1 in adjacent suitable habitat that is contiguous with the foraging habitat of the affected owls.
4. If owls must be moved away from the disturbance area, passive relocation (see below) is preferable to trapping. A time period of at least one week is recommended to allow the owls to move and acclimate to alternate burrows.
5. The mitigation committee recommends monitoring the success of mitigation programs as required in Assembly Bill 3180. A monitoring plan should include mitigation success criteria and an annual report should be submitted to the California Department of Fish and Game.

## **AVOIDANCE**

### **Avoid Occupied Burrows**

No disturbance should occur within 50 m (approx. 160 ft.) of occupied burrows during the non-breeding Season of September 1 through January 31 or within 75 m (approx. 250 ft.) during the breeding Season of February 1 through August 31. Avoidance also requires that a minimum of 6.5 acres of foraging habitat be preserved contiguous with occupied burrow sites for each pair of breeding burrowing owls (with or without dependent young) or single unpaired resident bird (Figure 2).

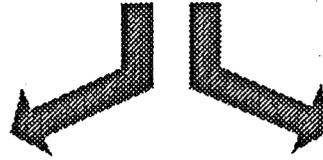
## **MITIGATION FOR UNAVOIDABLE IMPACTS**

### **On-site Mitigation**

On-site passive relocation should be implemented if the above avoidance requirements cannot be met. Passive relocation is defined as encouraging owls to move from occupied burrows to alternate natural or artificial burrows that are beyond 50 m from the impact zone and that are within or contiguous to a minimum of 6.5 acres of foraging habitat for each pair of relocated owls (Figure 3). Relocation of owls should only be implemented during the non-breeding season. On-site habitat should be preserved in a conservation easement and managed to promote burrowing owl use of the site.

Owls should be excluded from burrows in the immediate impact zone and within a 50 m (approx. 160 ft.) buffer zone by installing one-way doors in burrow entrances: One-way doors should be left in place 48 hours to insure owls have left the burrow before excavation. One alternate natural or artificial burrow should be provided for each burrow that will be excavated in the project impact zone. The project area should be monitored daily for one week to confirm owl use of alternate burrows before excavating burrows in the immediate impact zone. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe or burlap bags should be inserted into the tunnels

# AVOIDANCE



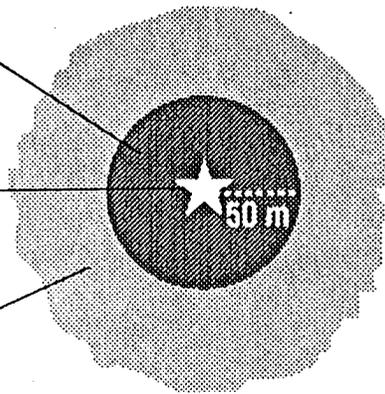
## Non-breeding season

1 Sept. - 31 Jan.

No impacts within  
50 m of occupied  
burrow

Occupied  
burrow

Maintain  
at least 6.5 acres  
foraging habitat



## Breeding season

1 Feb. - 31 Aug.

No impacts within  
75 m of occupied  
burrow

Occupied  
burrow

Maintain  
at least 6.5 acres  
foraging habitat

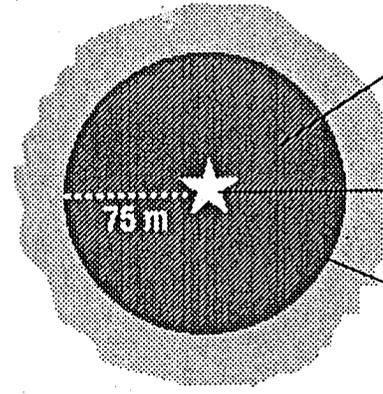


Figure 2. Burrowing owl mitigation guidelines.

## ON-SITE MITIGATION IF AVOIDANCE NOT MET

(More than 6.5 acres suitable habitat available)

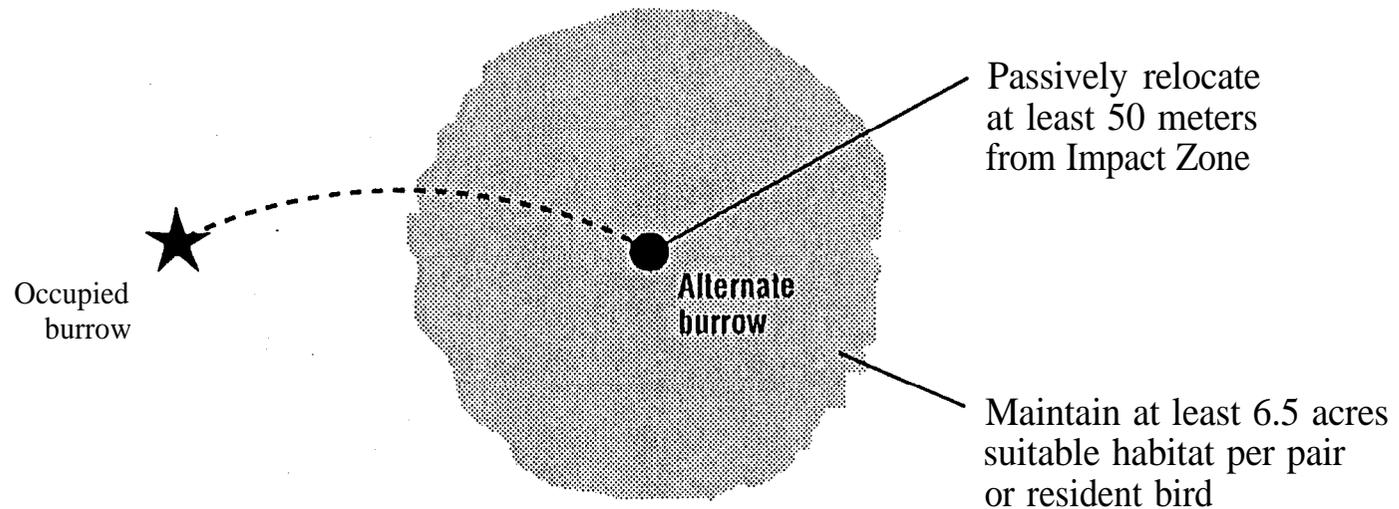


Figure 3. Burrowing owl mitigation guidelines.

during excavation to maintain an escape route for any animals inside the burrow.

### **Off-site Mitigation**

If the project will reduce suitable habitat on-site below the threshold level of 6.5 acres per relocated pair or single bird, the habitat should be replaced off-site. Off-site habitat must be suitable burrowing owl habitat, as defined in the *Burrowing Owl Survey Protocol*, and the site approved by CDFG. Land should be purchased and/or placed in a conservation easement in perpetuity and managed to maintain suitable habitat. Off-site mitigation should use one of the following ratios:

1. Replacement of occupied habitat with occupied habitat: 1.5 times 6.5 (9.75) acres per pair or single bird.
2. Replacement of occupied habitat with habitat contiguous to currently occupied habitat: 2 times 6.5 (13.0) acres per pair or single bird.
3. Replacement of occupied habitat with suitable unoccupied habitat: 3 times 6.5 (19.5) acres per pair or single bird.

## SECTION 3 LEGAL STATUS

The burrowing owl is a migratory bird species protected by international treaty under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter, any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R. 21). Sections 3503, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (March 1 - August 15, annually). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) or the loss of habitat upon which the birds depend is considered “taking” and is potentially punishable by fines and/or imprisonment. Such taking would also violate federal law protecting migratory birds (e.g., MBTA).

The burrowing owl is a Species of Special Concern to California because of declines of suitable habitat and both localized and statewide population declines. Guidelines for the Implementation of the California Environmental Quality Act (CEQA) provide that a species be considered as endangered or “rare” regardless of appearance on a formal list for the purposes of the CEQA (Guidelines, Section 15380, subsections b and d). The CEQA requires a mandatory findings of significance if impacts to threatened or endangered species are likely to occur (Sections 21001(c), 21083. Guidelines 15380, 15064, 15065). Avoidance or mitigation must be presented to reduce impacts to less than significant levels.

### CEQA AND SUBDIVISION MAP ACT

CEQA Guidelines Section 15065 directs that a mandatory finding of significance is required for projects that have the potential to substantially degrade or reduce the habitat of, or restrict the range of a threatened or endangered species. CEQA requires agencies to implement feasible mitigation measures or feasible alternatives identified in EIR’s for projects which will otherwise cause significant adverse impacts (Sections 21002, 21081, 21083; Guidelines, sections 15002, subd. (a)(3), 15021, subd. (a)(2), 15091, subd. (a)).

To be legally adequate, mitigation measures must be capable of “avoiding the impact altogether by not taking a certain action or parts of an action”; “minimizing impacts by limiting the degree or magnitude of the action and its implementation”; “rectifying the impact by repairing, rehabilitating or restoring the impacted environment”; “or reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.” (Guidelines, Section 15.370).

Section 66474 (e) of the Subdivision Map Act states “a legislative body of a city or county shall deny approval of a tentative map or parcel map for which a tentative map was not required, if

it makes any of the following findings:... (e) that the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and avoidably injure fish and wildlife or their habitat". In recent court cases, the court upheld that Section 66474(e) provides for environmental impact review separate from and independent of the requirements of CEQA (Topanga Assn. for a Scenic Community v. County of Los Angeles, 263 Cal. Rptr. 214 (1989).). The finding in Section 66174 is in addition to the requirements for the preparation of an EIR or Negative Declaration.

## LITERATURE CITED

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# Burrowing Owl Project Clearance Protocol

Arizona Burrowing Owl Working Group

July 30, 2007



Adult banded burrowing owl.

Bruce Taubert

## Background and Purpose

The Western burrowing owl (*Athene cunicularia*) can often be seen during daylight hours, is approximately 20 cm (8 in) tall, and uses underground burrows for nesting and escape cover. All owls are protected by Arizona state law (ARS Title 17) and by Federal law under the Migratory Bird Treaty Act (MBTA). Fines and other penalties may result if these laws are violated. To avoid violating these laws, all owls and active burrows should be identified prior to any ground-disturbing activity. This survey protocol was developed by State and Federal biologists and other burrowing owl experts to provide a standardized means for conducting burrowing owl surveys in areas where burrows are likely to be disturbed in order to minimize impacts to the owls and the projects that may displace them.



Bruce Taubert

**Figure 1. Adult burrowing owl.**

The survey protocol involves visual surveys for owls and burrows using walking transects to look for owls and/or owl sign. It is recommended that only persons with proper training and State certification conduct the survey. To facilitate burrowing owl management, it is recommended that all survey areas, routes, times, and detections be reported to Arizona Game and Fish Department (AGFD) when completed, and if owls or active burrows are detected, coordination with the appropriate agencies prior to initiating ground-disturbing activity will facilitate compliance with the applicable legal requirements (see Contacts below).

## Surveyor Credentials

Burrowing owl surveyors should have the following background and experience:

- At least four years of full-time undergraduate-level education or a Bachelor's degree in biology, natural resources, wildlife science, environmental studies, or a related field; or
- One (or more) year(s) of experience working with burrowing owls in the field; and
- Burrowing owl survey protocol certification (training provided by AGFD; see Website in Contacts below for next date and location) with appropriate documentation.

Completed burrowing owl survey reports provided to AGFD should include each surveyor's resume and protocol certification.

## Survey Timing

Burrowing owls are most likely to occupy breeding burrows between March and mid-July. While burrowing owl migration habits are not well documented, it is thought that northern Arizona owls generally migrate south for the winter, whereas some larger proportion (up to 12-61%; Conway and Ellis 2004) of burrowing owls in southern and western Arizona are thought to be non-migratory (Sheffield 1997). It is highly recommended that surveys be conducted at the



Elissa Ostergaard

Figure 2. Natural burrowing owl burrow on a wash bank.

time of property acquisition or project design to allow time to properly accommodate or mitigate for owls, if present. Absent preliminary surveys, or depending on the results of preliminary surveys and subsequent actions to reduce the likelihood of burrowing owl occupancy, surveys may also need to occur within 90 days before grading or construction activity starts, and again within 30 days of construction if original surveys were conducted during the winter season and construction activity starts during the breeding season (see below). We recommend that project initiation be avoided in March due to the possibility of new owls arriving during construction, unless all suitable burrows are

permanently closed by a properly licensed individual or group. If owls or occupied burrows are detected within the construction area at any time during project implementation, burrows must be avoided (see below for buffer requirements) until status of the burrows can be determined and owls removed by properly permitted individuals or groups, or other conservation measures are implemented.

Surveys should be conducted between first light (typically ½ hour before sunrise) until 9:00am and between 2 hours before sunset until dusk. Do not conduct surveys during excessive rain, temperatures above 32 degrees C (90 degrees F) or wind speed greater than 32 km/hr (20 mi/hr).

Recommended schedule for burrowing owl surveys to account for migration and the breeding season.

Scheduled Start of Grading Activity	Recommended Survey Timing
March 1– March 31	90 days and implement owl conservation measures* at least 30 days prior
April 1- June 30	90 & 30 days prior
July 1- Feb 28	90 days prior

\*Potential owl conservation measures include collapsing all unoccupied burrows of suitable dimensions, identifying open space areas to be protected as a buffer around occupied and suitable owl burrows, passive exclusion of owls, or translocation of owls.

### Survey Protocol

Surveys are conducted by walking straight-line transects 10 m (33 ft) apart (or arranged so that all ground surfaces can be seen) and looking for evidence of owls: owls themselves, burrows, and owl sign at burrow entrances, including pellets, feces or other “ornamentation,” feathers, prey remains, whitewash, etc. Transects should be located over the entire project area, and oriented such that the tops and sides of all topographic features are examined. For example, if the



Elissa Ostergaard

Figure 2. Artificial burrow with fresh owl sign.

project area includes a wash with a steep bank, one transect should be near the top of the bank, and another near the base of the bank in the wash.

At the start of the survey and again every 100 m (300 ft), scan the entire visible project area for owls using binoculars or a spotting scope. Record the locations of all burrows (natural and artificial) within 5 m (16 ft) of each transect. Each burrow (entrance height 8 + cm [3 + in]; width 8 + cm [3 + in]; burrow depth > 1 m [3 ft]) shall be assessed to determine potential use by burrowing owls, unless owls are present. Burrows may include holes dug by mammals, birds, or created by erosion, pipes, spaces below concrete or other solid structures, etc.

An Active burrow has a live owl or owls, or shows sign of recent use (e.g., fresh whitewash, fresh pellets, feathers, or nest ornamentation – Figure 2). A Potentially Active burrow is one with evidence of previous use, but use is not recent (e.g., old whitewash, old pellets, cobwebs over entrance, and/or debris at burrow entrances). An Inactive burrow exhibits no evidence of use by burrowing owls but is of suitable size for occupancy.

Record the number and location of all owls seen within or near the project area. Clean and remove all owl sign at Potentially Active burrows. Visit the site again after 2-8 days and check all Potentially Active and Inactive burrows of the appropriate size for fresh sign to verify burrows that are occupied.



Figure 4. Adult burrowing owl at artificial burrow entrance.

## Reporting

Record the locations and dates of all surveys and the details of all burrow and owl detections (even if outside the construction zone), either on a hard copy map or as UTM's (Universal Transverse Mercator map coordinates compatible with GIS and GPS systems) using the standard forms provided. Attach resumes and credentials of all surveyors as described above. Send to AGFD, Urban Wildlife Program (northern Arizona and Phoenix area – send to the Mesa office; southern Arizona – send to the Tucson Office) either by email at [urbanwildlife@azgfd.gov](mailto:urbanwildlife@azgfd.gov) or by mail to the address below (see Contacts).



Figure 5. Burrowing owl chicks at a natural burrow entrance.

## Owl Detections, Conservation and Mitigation

Should preliminary measures fail to prevent burrowing owl occupancy of a project site during implementation or if active burrows are located in the construction zone during construction activities, owls should not be disturbed in any way, as this may constitute a violation of the MBTA. A 35-m

(100-ft) radius buffer excluding all heavy machinery and foot traffic should be set up around all active burrow entrances during construction and until the appropriate conservation action is determined (B. Fox, pers. comm.). To permanently accommodate owls on site, we recommend that a buffer of 35-m (100-ft) should remain in perpetuity between the burrows and new construction and managed to maintain breeding habitat suitability (Millsap and Bear 2000). Delineating protected areas (fencing, cones, etc.) is encouraged as long as it does not enclose the owls or prevent the owls' ability to see nearby predators.

After surveys are completed and reports submitted to AGFD, and if burrowing owls or suitable burrows are located within the project boundaries, the landowner is advised to contact the nearest AGFD office (see Contacts) for direction related to accommodating or mitigating for owls prior to development based on the conditions and constraints of the site. Further mitigation or costs may be avoided if occupied owl areas can be set aside for at least 10 years and if suitable habitat for nesting and foraging will remain after development is finished. If it is determined that the best option is to disturb and then mitigate for the disturbance of the owls, the owner must obtain a permit from U.S. Fish and Wildlife Service, and mitigation may include excluding owls from disturbed burrows prior to construction, and/or providing artificial burrows on-site or in a different location, and monitoring to determine the success of the actions taken.

## Literature Cited

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- Millsap, B.A. and C. Bear. 2000. Density and reproduction of burrowing owls along an urban development gradient. *Journal of Wildlife Management* 64:33-41.
- Sheffield, S.R. 1997. Current status, distribution and conservation of the Burrowing Owl (*Speotyto cunicularia*) in midwestern and western North America. Pages 399-407 in J.R. Duncan, D.H. Johnson, and T.H. Nicholls [Eds.], *Biology and Conservation of Owls of the Northern Hemisphere: Second International Symposium, February 5-9, 1997*, Winnipeg, Manitoba, Canada. USDA For. Serv. Gen. Tech. Rep. NC-190.
- U.S. Fish and Wildlife Service. Migratory Bird Treaty Act, Migratory Bird Permit Office. Last accessed May 4, 2007. <http://www.fws.gov/permits/mbpermits/birdbasics.html>

## Appendix A.

### Contacts

#### In Tucson and southern AZ:

**Arizona Game and Fish Department**  
Urban Wildlife Program, Tucson Office  
555 N. Greasewood Rd.  
Tucson, AZ 85745  
(520) 628-5376

**US Fish & Wildlife Service**  
Ecological Services Office  
201 N. Bonita Ave., Ste. 141  
Tucson, AZ 85745  
(520) 670-6144

#### In Phoenix, central and northern AZ:

**Arizona Game and Fish Department**  
Urban Wildlife Program, Mesa Office  
7200 E. University  
Mesa, AZ 85207  
(480) 981-9400  
[www.azgfd.gov](http://www.azgfd.gov)

**US Fish & Wildlife Service**  
Ecological Services Office  
2321 W. Royal Palm Road, Ste. 103  
Phoenix, AZ 85021  
(602) 242-0210  
<http://www.fws.gov/southwest/es/arizona/>

### **Burrowing Owl Working Group Members**

James Driscoll, Raptor Project Coordinator, Arizona Game and Fish Department  
Troy Corman, Nongame, Arizona Game and Fish Department  
Marit Alanen, U.S. Fish and Wildlife Service  
Scott Richardson, U.S. Fish and Wildlife Service  
Shawn Lowery, Research Branch, Arizona Game and Fish Department  
Mike Ingraldi, Research Branch, Arizona Game and Fish Department  
Ray Schweinsberg, Research Branch, Arizona Game and Fish Department  
Elissa Ostergaard, Tucson Regional Office, Arizona Game and Fish Department  
David Grandmaison, Research Branch, Arizona Game and Fish Department  
Catherine Crawford, Habitat, Arizona Game and Fish Department

**Appendix B. Burrowing Owl Survey Report Form  
Arizona Burrowing Owl Working Group**

Surveyor(s):  
 Date of Survey: Weather (precipitation, wind, temperature, cloud cover):  
 Survey Location (address or ¼ Section, Township, Range, or UTM):  
 City: County: Datum (for UTM – NAD83 preferred):  
 Area surveyed: acres or m<sup>2</sup> (circle one)  
 Fossorial mammals present? Yes No If yes, what species?  
 Total # burrowing owls seen:  
 Total # Active burrows:  
 Total # Potentially Active burrows:  
 Habitat Description (open, treeless areas, washes, topography, etc.):  
 Features present (circle all that apply):  
     Agricultural fields (if so, with trees? Yes No Both with and without)  
     Wash corridor (if so, water in wash? Yes No)  
     Desert scrub, average % cover: <20           20-40           >40  
     Creosote flats  
     Other (describe)

**Instructions:**  
 Attach map of surveyed area showing the location of all transects, burrows >3 in., and burrowing owls (BUOW) seen. Label each transect so that it corresponds to the data below, and note the activity level of each burrow.

Transect #	Transect start location	Transect end location

Transect	Date	Burrow or BUOW location (UTMs)	BUOW present?	BUOW sign observed (if burrow)	Status (Active/Potentially Active/Inactive)

Return completed forms (regardless of whether burrowing owls are detected) along with surveyor’s resume(s) listing qualifications and burrowing owl certification to:

Arizona Game and Fish Department  
 ATTN: James Driscoll, Nongame Program  
 2221 W. Greenway Road  
 Phoenix, AZ 85023  
 (602) 789-3581  
[urbanwildlife@azgfd.gov](mailto:urbanwildlife@azgfd.gov) or [jdriscoll@azgfd.gov](mailto:jdriscoll@azgfd.gov)

**CHAPTER 9.76 PLANT PROTECTION AND MANAGEMENT** (AMENDED ORD. 247)

**SECTIONS:**

9.76.010 General Provisions ..... 1  
 9.76.020 Desert Native Plant Protection ..... 5  
 9.76.030 Riparian Plant Conservation..... 7  
 9.76.040 Joshua Trees ..... 7

**9.76.010 GENERAL PROVISIONS**

**A. Purpose.** The Town finds that it is in the public interest to promote the continued health of this Town's abundant and diverse plant resources by providing regulations and guidelines for the management of the plant resources in the Town of Apple Valley on property or combinations of property under private or public ownership for the following purposes:

1. To promote and sustain the health, vigor and productivity of plant life and aesthetic values within the Town through appropriate management techniques;
2. To conserve the native plant life heritage for the benefit of all, including future generations;
3. To protect native trees and plants from indiscriminate removal, and to regulate such activity;
4. To provide a uniform standard for appropriate removal of native trees and plants in public and private places and streets to promote conservation of these valuable natural resources;
5. To protect and maintain water productivity and quality in local watersheds; and
6. To preserve rare plants and protect animals with limited or specialized habitats.

**B. Intent.** The general provisions established by this Section shall also apply to Sections 9.76.020, 9.76.030, and 9.76.040 of this Chapter.

**C. Scope**

1. The provisions of this Chapter shall apply to all private land within the Town of Apple Valley and to public lands owned by the Town except as specified by the provisions of this Chapter.

2. **Exceptions.** The provisions of this Chapter are not applicable to the removal of any regulated native tree or desert native plant, except for Joshua Trees as provided in Section 9.76.040, when such are removed in accordance with any of the following listed situations:

- a. Removal from lands owned by the United States Government, State of California or local governmental entity, excluding Special Districts.
- b. Removal by any public utility subject to jurisdiction of the Public Utilities Commission or any other constituted public agency, including franchised Cable TV, where to establish or maintain safe operation of facilities under their jurisdiction, trees are pruned or braced.
- c. Removal required by other codes, ordinances or laws of the Town of Apple Valley, San Bernardino County, the State of California or the United States.
- d. Removal of native trees and plants which are an immediate threat to the public health, safety or welfare and require emergency removal to prevent probable damage to a structure or injury to people or fenced animals.
- e. Removal as part of a bona fide agricultural activity as determined by the Town Manager, or designee, which is:
  - 1) Conducted under a land conservation contract; and/or
  - 2) An existing agricultural activity; and/or

- 3) A proposed bona fide agricultural activity if the Town Manager, or designee, is given thirty (30) days written notice of the removal describing the location of the land, the nature of the proposed activity, and the proposed sources of water for the activity. The Town Manager, or designee, shall notify the landowner in writing prior to the elapse of the 30-day period if, in the opinion of the Town Manager, or designee, the activity is not a bona fide agricultural activity, or else the activity shall be deemed bona fide.

A bona fide agricultural activity is one which is served by a water distribution system adequate for the proper operation of such activity.

- f. Any regulated native plant or tree, except Joshua tree, that is within twenty (20) feet of a structure on the lot that was constructed or set down under a County or Town development permit.

3. **Conditions.** The permits authorized by this Chapter may be subject to conditions required by the reviewing authority. Such conditions may specify criteria, methods and persons authorized to conduct the proposed activities which are subject to the permit. Where applicable, regulated trees and plants may be required to be transplanted and/or stockpiled for future transplanting.

#### **D. Removal Permit**

1. A removal permit shall be required for the removal of any native tree or plant that is subject to the provisions of this Chapter. Disturbing, moving (transplanting or otherwise), removal or destruction of an existing Joshua Tree(s) shall be subject to the provisions of Section 9.76.040.
2. A land use application, a building permit and all other development permits (e.g., grading, mobilehome setdowns, etc.), shall consider and include a review of any proposed application and/or development permit shall be a permit for the removal of native trees or plants, if such land use application or development permit specifically reviews and approves such removals. Such reviews shall consider and require compliance with the provisions of this Chapter.
3. The reviewing authority may require certification from an appropriate tree expert or desert native plant expert that such tree removals are appropriate, supportive of a healthy environment and are in compliance with the provisions of this Chapter.
4. Removals of native trees or plants that are not requested in conjunction with a land use application or development permit may be accomplished only under a permit issued by the Town of Apple Valley Planning Division, subject to the provisions of this Chapter.
5. The Building Official shall require a pre-construction inspection prior to approval of development permits.
6. The duration of a plant or tree removal permit when issued in conjunction with a land use application and/or a development permit shall be coterminous with the duration of the associated application or permit, unless otherwise specified. The Reviewing Authority shall specify the expiration date for all other tree and/or plant removal permits.

#### **E. Findings for Removal.** The Reviewing Authority shall authorize the removal of a native tree or plant subject to provisions of this Chapter only if the following findings are made:

1. The removal of the native tree or plant does not have a significant adverse impact on any proposed mitigation measures, soil retention, soil erosion and sediment control measures, scenic routes, flood and surface water runoff and wildlife habitats.
2. The removal of the native tree or plant is justified for one of the following reasons:
  - a. The location of the native tree (excluding Joshua Trees) or plant and/or its dripline interferes with the reasonable improvement of the site with an allowed structure, sewage disposal area, paved area or other approved improvement or

ground disturbing activity. Also such improvements have been designed in such a manner as to save as many healthy native trees and/or plants as reasonably practicable in conjunction with the proposed improvements.

- b.* The location of the native tree or plant and/or its dripline interferes with the planned improvement of a street or development of an approved access to the subject or adjoining private property.
- c.* The location of the native tree or plant is hazardous to pedestrian or vehicular travel or safety as determined by the Town Engineer.
- d.* The native tree or plant or its presence interferes with or is causing extensive damage to utility services or facilities, roadways, sidewalks, curbs, gutters, pavement, sewer line(s), drainage or flood control improvements, foundations, existing structures, or municipal improvements.
- e.* The condition or location of the native plant or tree is adjacent to and in such close proximity to an existing structure that the native plant or tree has or will sustain significant damage.

**F. *Plot Plan Requirements.*** Prior to the issuance of a native tree or plant removal permit in conjunction with a development permit and/or approval of a land use application which authorizes such removal, a plot plan shall be approved by the appropriate Town Review Authority (County Certified Plant Expert, Planning Commission or Town Council) for each site indicating exactly which trees or plants are authorized to be removed. The required information can be added to any other required plot plan.

Prior to issuance of development permits in areas with native trees or plants that are subject to the provisions of this Chapter, a pre-construction inspection shall be conducted by the appropriate authority. Such pre-construction inspections may be combined with any other required inspection.

**G. *Construction Standards.*** During construction and prior to final inspection under a development permit, the following standard shall apply unless otherwise approved in writing by a Desert Native Plant Expert:

- 1.* Native tree trunks and plants shall not be enclosed within roof lines or decking.
- 2.* Utilities, construction signs, or other hardware shall not be attached so as to penetrate or abrade any live native tree or plant.
- 3. **Grade alterations.*** There shall be no grade alterations which buries any portion of a native tree or plant or significantly undercuts the root system within the dripline.
- 4.* "Trap Fencing" shall be utilized to prevent compaction damage to the root zone; installed a minimum of twenty-five (25) percent beyond the dripline.

**H. *Fees.*** Where permits or reviews are required by this Chapter and they are not incorporated into other review or permit procedures, fees shall be paid in accordance with the Town of Apple Valley Schedule of Fees.

**I. *Enforcement.*** The provisions of this Chapter shall be enforced by any authorized member of the Building and Safety, Code Enforcement or Planning Division.

- 1. **Extension of time.*** If any of the land governed by this Chapter shall be subject to snow, flooding, or other condition which shall render compliance with the provisions of this Chapter within the specified time periods impractical because of inaccessibility, an enforcement officer may extend the period of time for compliance.
- 2.* A peace officer or any authorized enforcement officer may, in the enforcement of this Chapter, make arrests without warrant for a violation of this Chapter, which he or she may witness, and may confiscate regulated native trees or plants, or parts thereof which are unlawfully harvested, possessed, sold or otherwise obtained in violation of this Chapter. Also any designated enforcement officer is hereby authorized and directed to enter in or upon any premises or other place, train, vehicle or other means of

transportation within the Town of Apple Valley, which is suspected of containing or having present therein or thereon native plants in violation of this Chapter in order to examine permits and wood receipts and observe tags and seals and to otherwise enforce the provisions of this Chapter.

- 3. When any power or authority is given by any provision of this Chapter to any person, it may be exercised by any deputy, inspector or agent duly authorized by that person. Any person in whom the enforcement of any provision of this Chapter is vested has the power of a peace officer as to that enforcement, which shall include state or federal agencies with which cooperative agreements have been made by the Town to enforce the provisions of this Chapter.
- 4. No person shall remove or damage all or part of any native tree or plant on another property without first obtaining notarized written permission from the landowner and any required Town permits, wood receipts or tags and seals. Also, it is unlawful for any person to falsify any document offered as evidence of permission to enter upon the property of another to harvest all or parts of a native tree or plant, whether it be alive or dead.
- 5. No person, except as provided in this Chapter, shall harvest, offer for sale, destroy, dig up or mutilate or have, in his or her possession any regulated native plant or tree, or the living or dead parts of such unless the plant or tree was harvested or obtained under a valid Town permit, and where applicable, a valid wood receipt on his or her person. Any such person shall exhibit the permit, wood receipt, tags and/or seals upon request for inspection by any duly authorized Town Enforcement Officer or any peace officer. No wood receipt or tag and seal is valid unless it is issued with a valid Town permit.
- 6. No person, except as provided in this Chapter, shall cause a disturbance of land which results in the removal of any regulated native trees or plants (e.g., grading or land clearing) and which is not in conjunction with any other development permit without first obtaining a native plant harvesting or tree removal permit issued by the appropriate reviewing authority.

**J. Penalties.** Penalties shall include the following and any other penalties specified by Sections 9.76.020, 9.76.030, and 9.76.040 of this Chapter.

**1. ILLEGALLY REMOVED NATIVE TREE OR DESERT NATIVE PLANT PENALTY.**

In addition to other penalties and fees imposed by this code or other law, any person, firm or corporation convicted of a violation of the provisions of this Chapter shall be guilty of a misdemeanor upon conviction. When one or more plants or trees are removed in violation of the provisions of this Chapter, the removal of each such separate plant or tree shall be a new and separate offence. The penalty for such offense shall be a fine of not less than five hundred dollars (\$500) nor more than one thousand dollars (\$1,000) or six months in jail or both. Payment of any penalty herein provided shall not relieve a person, firm or corporation from the responsibility of correcting the condition resulting from the violation.

**2. ILLEGALLY REMOVED NATIVE TREE OR DESERT NATIVE PLANT REPLACEMENT REQUIREMENT.**

**a.** In addition to other penalties imposed by this Code or other law, any person, firm or corporation convicted of violating the provisions of this Chapter regarding improper removal of regulated native trees or plants shall be required to retain, as appropriate, a tree or Desert Native Plant Expert to develop and implement a replacement program. Such expert shall determine the appropriate number, size, species, location and planting conditions for replacement plants or trees in sufficient quantities to revegetate the illegally disturbed area.

If it is inappropriate to revegetate the illegally disturbed area another appropriate location (e.g., public parks) may be substituted at the direction of the court.



Town Manager, or designee. A Desert Native Plant Expert shall supervise and manage any required transplanting of desert native plants.

**E. Subject Desert Native Plants.** The following desert native plants are subject to the regulations specified by this Chapter. In all cases the Botanical names shall govern the interpretation of this Chapter.

**1. Regulated Desert Native Plants.** The following desert native plants or any part thereof except the fruit, shall not be harvested or removed except under a permit issued by the Town Manager, or designee:

**a.** The following desert native plants with stems two inches or greater in diameter or six feet or greater in height:

**1)** Dalea, Spinosa (smoketree).

**2)** All species of the family Agavaceae (century plants, nolinias, yuccas, cacti). Including the following known to Apple Valley:

**a)** Mohave Yucca (*Yucca schidigera*)

**b)** Lords candle (*Yucca whipplei*)

**c)** Barrel cactus (*Ferocactus acanthodes*)

**3)** All species of the genus *Prosopis* (mesquites).

**b.** Creosote Rings, ten feet or greater in diameter.

**c.** All Joshua trees (mature and immature), subject to the provision of Section 9.76.040.

**2.** All plants protected or regulated by the State Desert Native Plant Act (i.e., Food and Agricultural Code 80001, et. seq.) shall be required to comply with the provisions of those statutes prior to the issuance of any county development permit or land use application approval. The Town Manager, or designee, is responsible for the issuance of any required wood tags, seals or permits.

**F. Enforcement.** In addition to the enforcement provisions and penalties prescribed in this Chapter of the Code and/or the State Food and Agricultural Code, Division 23, Chapter 7, the following shall apply:

**1.** Upon conviction of a violation of this Chapter, all Desert Native Plant Harvesting permits issued to the person convicted shall be revoked and the permittee shall be required to surrender any unused tags and seals to the Town Manager, or designee, and no new or additional permits shall be issued to the permittee for a period of one year from the date of conviction.

**2.** Upon the second conviction, all permits issued to the person convicted shall be revoked and the permittee shall be required to surrender any unused tags and seals, or no additional permits shall be issued to the permittee at any time in the future from the date of such second conviction.

**3.** The Town Reviewing Authority may revoke any permit issued if the permittee willfully fails to comply with all of the conditions or stipulations of the permit.

**4.** Each permit authorizing the possessing of desert native plants or live or dead mesquite, palo verde, or ironwood species of trees which are removed for wood shall be accompanied by a sufficient number of tags and seals or wood receipt. Such tags, seals or wood receipts shall be issued, transported, and may be transferred to other parties in accordance with the California Desert Native Plant Act, as amended.

**G. Definitions.** Terms and phrases used within this Section shall be defined by the Food and Agricultural Code.

### 9.76.030 RIPARIAN PLANT CONSERVATION

- A. **Purpose.** The Town finds that it is in the public interest to promote healthy and abundant riparian habitats. Riparian habitats are located along the sides of canyon bottoms, streams and rivers, providing watershed protection as well as control transmission and storage of natural water supplies. Riparian areas provide a unique wildlife habitat and contribute to an attractive environment. Riparian areas also provide natural soil erosion and sedimentation control protecting stream banks subject to erosion and undercutting. In addition riparian areas provide sufficient shade to reduce temperature and evaporation and the growth of algae in streams. The provisions of this Chapter are designed to augment and coordinate with the responsibilities of the California Department of Fish and Game.
- B. **Scope**
1. The provisions of this Chapter shall apply to all riparian areas growing on private land within the Town of Apple Valley and to riparian areas growing on public land owned by the Town of Apple Valley, except as specified by this Chapter.
  2. **Exceptions.** The provisions of this Chapter are not applicable to emergency Flood Control District operations or water conservation measures established and authorized by an appropriate independent Special District with such responsibility.
- C. **Subject Areas and Plants.** Except as otherwise provided or excepted by the provisions of this Chapter, the removal of any vegetation within two hundred (200) feet of the bank of a stream indicated as a blue line on a United States Geological Survey Quadrangle (topographic) map or indicated as a protected riparian area on a community or specific plan, shall be subject to a tree or plant removal permit in accordance with the procedures detailed by this Chapter for each respective regional area and shall be subject to environmental review. Any necessary conditions of approval for removal of riparian vegetation may be imposed in addition to, and in combination with, any condition imposed pursuant to this Chapter.

### 9.76.040 JOSHUA TREES

- A. **Intent.** It is the stated intent and desire of the Town Council of the Town of Apple Valley to recognize and preserve the contribution that Joshua Trees have made to the desert environment and, more specifically, to the Town's "Better Way of Life". In conformance with this recognition, no existing Joshua Tree shall be disturbed, moved (transplanted or otherwise), removed or destroyed unless such disturbance, move, removal or destruction is first reviewed and approved by the Town of Apple Valley. The Town Manager, or designee, shall be responsible for review and approval of any request to disturb, move (transplant or otherwise), remove or destroy any existing Joshua Tree located on any property within any zoning district in the Town of Apple Valley. Forms for such review shall be available within the Planning Division.

Further, while it is the intent and desire of the Town to preserve and protect all Joshua Trees, this intent and desire shall be balanced against the community's need for growth and the development rights of individual property owners. To achieve this preservation and protection, while protecting both the property rights of property owners and the community's desert environment, anyone submitting an application to disturb, move, remove or destroy an existing Joshua Tree shall use all means necessary to retain and preserve such Tree(s) in its native (present) location in considering and presenting said Tree Disturbance application. This application shall take into consideration lot configuration, potential property development (buildable envelope), onsite circulation and all associated and related infrastructure needed to support construction within the buildable envelope. Further, persons submitting an application for a discretionary review or for any subdivision of land within the Town of Apple Valley upon which a Joshua Tree(s) is present, shall use all reasonable means available to retain and preserve the Tree(s) in its native (present) location in considering and presenting said application or subdivision request with regard to lot location and configuration, potential property development (buildable envelope), circulation system and all associated and related infrastructure.

**B. Retention in Place.** It is acknowledged that community development may be more appropriately served if some existing Joshua Trees are allowed to be relocated. The following shall be the minimum criteria for the preservation of Joshua Trees in place. While Joshua Trees which do not conform to the following criteria must be preserved, they may be transplanted to another location on the same property or may be made available for adoption through the Town’s Joshua Tree Preservation and Adoption Program. A Joshua Tree(s) which conforms to the following shall be preserved in place unless its removal, transplantation or destruction is approved as prescribed within this Section 9.76.040 of the Town of Apple Valley Municipal Code.

For any Joshua Tree(s) which conform to the criteria listed below, for which the property owner/applicant has made a request for a Building Permit, application for a discretionary review or application for a subdivision of land within the Town of Apple Valley, said owner/applicant shall submit, as part of the application for approval, documentation of their best efforts to retain and preserve all Joshua Tree(s) within the limits of the development or subdivision in its native (present) location. Such documentation of best effort shall include how alternative lot configurations (including building envelopes on lots with existing Tree(s)), circulation, physical or environmental constraints of the site, allow no alternative subdivision configuration which would retain and preserve the Tree(s) in its native (present) location.

1. A Joshua Tree that is known, by historic record, including pictures or written description, to be at least forty (40) years old.
2. A Joshua Tree which has a width of at least fifteen (15) feet as measured from the furthest point of outstretched branches (measured parallel to the ground).
3. A Joshua Tree which is at least fifteen (15) feet in height as measured from the base of the trunk to the highest point of the Tree.
4. A Joshua Tree which has a trunk measuring at least twelve (12) inches in diameter as measured four (4) feet from the ground.

**C. Transplantation.** Transplanting approved by the Town of Apple Valley must be initiated and completed under the supervision of a Desert Native Plant Expert<sup>(1)</sup>. Approval of such transplant must take into consideration the time of year, the plant’s original and transplanted physical orientation, prevailing wind direction, soil type of the original and transplanted locations, and other related attributes which may affect the successful transplantation of the Joshua Tree(s) in question as determined by the Town and the retained Botanist.

Joshua Trees that are proposed to be removed shall be transplanted or stockpiled for future transplanting wherever possible. In the instance of stockpiling and/or transplanting the permittee has submitted and has had the approval of a Joshua Tree maintenance plan prepared by a Desert Native Plant Expert<sup>(1)</sup>. This plan shall include a schedule for maintenance and a statement by the Desert Native Plant Expert that this maintenance plan and schedule will be implemented under his/her supervision. The schedule shall include the requirement that a maintenance report is required at the end of the project or at six (6) month intervals, evidence to the satisfaction of the Building Official that the Desert Native Plant Expert has supervised the scheduled maintenance to the extent that all transplanted and stockpiled plants have been maintained in such a manner to insure the highest practicable survival rate. In the event that this report is not satisfactory, a tree and plant replacement plan and implementation schedule prepared by a Desert Native Plant Expert may be required by the Building Official.

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(1) The Town's Desert Native Plant Expert is one of the following:

- a. State of California Agricultural Biologist, or
- b. State of California Registered Forester, or
- c. I.S.A. Certified Arborist, or
- d. County Certified Plant Expert, or
- e. Others approved by the Town's Building Official.

- D. Noticing.** To promote awareness of the availability and disposition of Joshua Trees within the community, in addition to the Noticing requirements specified within Chapter 9.13 "Public Hearings and Notice", the Planning Division of the Town of Apple Valley shall incorporate the following language into any Legal Notice for the subdivision of land or the review, for possible approval, of any discretionary application, to advise all interested parties that an existing Joshua Tree(s) may be affected, transplanted or removed by the approval and development of the discretionary request:

"One or more existing Joshua Tree(s) may be affected, transplanted or removed by the approval and development of the request under consideration identified in this Legal Notice."

- E. Tree Program.** In the Town's effort to retain and preserve, in place, existing Joshua Trees, the Planning Division of the Town of Apple Valley shall establish and maintain a Joshua Tree Preservation and Adoption Program. This Program shall be a listing, available to the public, of locations where individuals have applied to disturb, move (transplant or otherwise), remove or destroy an existing Joshua Tree(s). The Program shall include the name of the property owner, the address of the property containing the Joshua Tree(s), a mailing address for the property owner, a daytime contact phone number, the number of Trees disturbed, moved, removed or destroyed, and the approximate size, physical characteristics and physical condition of the available Tree(s) as of the date the Tree(s) was listed on the program. The Program shall also list a date that each individual Tree was disturbed, moved, removed or destroyed.

No Joshua Tree(s) shall be approved for transplantation more than once in any ten (10) year period. Although no Joshua Tree(s) may be approved for transplantation more than once in any ten (10) year period, the Planning Commission may, at the time of a discretionary review, approve an interim location, for up to one (1) year for storing Joshua Tree(s) to allow for a phased development of a project or property.

Said Joshua Tree Preservation and Adoption Program will include a listing of individuals whose property has a Joshua Tree(s) that is available to be transplanted to another location, the name of the property owner, the address of the property containing the Joshua Tree(s), a mailing address for the property owner, a daytime contact phone number, the number of trees available for adoption, and the approximate size, physical characteristics and physical condition of the available Tree(s).

The Program may also include, reviewed and updated annually, a list of the names, mailing addresses and daytime contact phone number of individuals who have expressed a desire to receive transplantable Joshua Tree(s).

- F. Findings for Removal.** The Reviewing Authority shall authorize the removal of a Joshua Tree(s) subject to provisions of this Chapter only if the following findings are made:

1. The removal of the Joshua Tree(s) does not have a significant adverse impact on any proposed mitigation measures, soil retention, soil erosion and sediment control measures, scenic routes, flood and surface water runoff and wildlife habitats.
2. The removal of the Joshua Tree(s) is justified for one of the following reasons:
  - a. The location of the Joshua Tree(s) or its dripline interferes with the reasonable improvement of the site with an allowed structure, sewage disposal area, paved area or other approved improvement or ground disturbing activity as determined by the Town Manager, or designee. Also such improvements have been designed in such a manner as to save as many healthy native trees and/or plants as reasonably practicable in conjunction with the proposed improvements.
  - b. The location of the native tree or plant and/or its dripline interferes with the planned improvement of a street or development of an approved access to the subject to adjoining private property.
  - c. The location of the native tree or plant is hazardous to pedestrian or vehicular travel or safety as determined by the Town Engineer.

- d. The native tree or plant, because of its presence, interferes with or is causing extensive damage to utility services or facilities, roadways, sidewalks, curbs, gutters, pavement, sewer line(s), drainage or flood control improvements, foundations, existing structures, or municipal improvements.
  - e. The condition or location of the native plant or tree is adjacent to and in such close proximity to an existing or proposed structure that the native plant or tree has or will sustain significant damage.
- G. *Deviation.*** In the event that the documentation of the best effort to preserve an existing Joshua Tree(s) in its native (present) location on site demonstrates that the Tree(s) cannot be retained and preserved in place unless a required Development Standard applicable to the underlying zoning designation is modified or reduced, the following deviation(s) may be granted by the Planning Commission specifically to allow the retention of the Joshua Tree in its native (present) location:

  - 1. Front yard setback – the required front yard setback may be reduced the minimum distance necessary to preserve an existing Joshua Tree(s) in its native (present) location by no more than ten percent (10%) of the required setback, not to exceed a reduction of seven and one half (7 ½) feet.
  - 2. Side yard setback – the required side yard setback may be reduced the minimum distance necessary to preserve an existing Joshua Tree(s) in its native (present) location by no more than twenty percent (20%).
  - 3. Rear yard setback – the required rear yard setback may be reduced the minimum distance necessary to preserve an existing Joshua Tree(s) in its native (present) location by no more than twenty percent (20%), not to exceed a reduction of seven and one half (7½) feet.
  - 4. Minimum lot width – the Planning Commission, in its consideration of a subdivision request, may, to preserve an existing Joshua Tree(s) in its native (present) location, reduce by up to ten percent (10%) the minimum lot width otherwise required for the minimum number of lots necessary to preserve the Tree(s) in place, but in no case shall this lot width reduction exceed more than fifteen percent (15%) of the total number of lots within the subdivision under review.
  - 5. Minimum lot depth – the Planning Commission, in its consideration of a subdivision request, may, to preserve an existing Joshua Tree(s) in its native (present) location, reduce by up to ten percent (10%) the minimum lot depth otherwise required for the minimum number of lots necessary to preserve the Tree(s) in place, but in no case shall this lot depth reduction exceed more than fifteen percent (15%) of the total number of lots within the subdivision under review.
  - 6. Minimum lot area – the Planning Commission, in its consideration of a subdivision request, may, to preserve an existing Joshua Tree(s) in its native (present) location, reduce by up to five percent (5%) the minimum lot area otherwise required for the minimum number of lots necessary to preserve the Tree(s) in place, but in no case shall this lot area reduction exceed more than fifteen percent (15%) of the total number of lots within the subdivision under review. No lot shall be reduced below the lot area specified and required within Measure “N”(no less than 18,000 square feet of net lot area).
- H. *Penalty for Violations.*** Unless otherwise provided, any person, firm or corporation violating any provision of this Chapter, shall be guilty of a misdemeanor. In addition, when one (1) or more plants or trees are removed in violation of the provisions of this Chapter or any other Town Code or ordinance, the removal of each such separate plant or tree shall be a new and separate offense.

Payment of any penalty herein provided shall not relieve a person, firm or corporation from the responsibility of correcting the condition resulting in the violation.

In addition to other penalties imposed by this Code or other law, any person, firm or corporation convicted of violating the provisions of this Chapter regarding improper removal of regulated

native trees or plants shall be required to retain, as appropriate, a tree or Desert Native Plant Expert to develop and implement a replacement program. Such expert shall determine the appropriate number, size, species, location and planting conditions for replacement plants or trees in sufficient quantities to revegetate the illegally disturbed area.

If it is inappropriate to revegetate the illegally disturbed area, another appropriate location (e.g., public parks) may be substituted at the direction of the court.

The violator shall post a bond in an amount sufficient to remove and reinstall plant/tree materials that were planted as a part of such a replacement program and failed within two (2) years.

- I. *Definition.*** Disturbance shall be acts of man which, as determined by the Town's Native Plant Expert, directly result in physical harm or damage to a Joshua Tree or which can be seen with reasonable certainty to cause the deterioration of the environmental setting around the Tree or interferes with the Tree's potential for growth and reproduction or causes direct physical contact/damage to the plant.

The determination of the Town's Native Plant Expert may be challenged before the Director and, subsequently to the Town Manager, where the facts upon which the Native Plant Expert based his/her determination shall be presented for consideration and which facts demonstrate with reasonable certainty that the Joshua Tree in question has been, is being or will be adversely harmed by the act(s) in question. The decision of the Town Manager shall be final.

The MBTA (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989).

In order to comply with the federal Migratory Treaty Bird Act<sup>1</sup> (MBTA), any vegetation or tree removal between February 1 and August 15<sup>th</sup> shall require a qualified biologist to conduct at least one nesting bird survey, and more if deemed necessary by the consulting biologist, ending no less than three days prior to grading. In the event active nests are found, exclusionary fencing shall be placed 200 feet around the nest.

FWS Summary:

**Overview.** The Migratory Bird Treaty Act implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under the Act, taking, killing or possessing migratory birds is unlawful.

**Prohibited Acts.** Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior (Secretary) may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns. Regulations are effective upon Presidential approval. §§ 703 and 704.

The Act makes it unlawful to: ship, transport or carry from one state, territory or district to another, or through a foreign country, any bird, part, nest or egg that was captured, killed, taken, shipped, transported or carried contrary to the laws from where it was obtained; import from Canada any bird, part, nest or egg obtained contrary to the laws of the province from which it was obtained. § 705.

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1 The MBTA (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989).

**Arrests/Search Warrants.** To enforce the Act, authorized Department of Interior employees may: without a warrant, arrest a person violating the Act in the employee's presence or view; execute a warrant or other process issued by an officer or court to enforce the Act; search any place with a warrant. All birds, parts, nests or eggs that are captured, killed, taken, offered or sold, bartered, purchased, shipped, transported, carried, imported, exported or possessed contrary to the Act will be seized and, upon conviction of the offender or upon court judgment, be forfeited to the U.S. and disposed of by the Secretary. § 706.

**Violations/Penalties.** According to the Act, a person, association, partnership or corporation which violates the Act or its regulations is guilty of a misdemeanor and subject to a fine of up to \$500, jail up to six months, or both. Anyone who knowingly takes a migratory bird and intends to, offers to, or actually sells or barter the bird is guilty of a felony, with fines up to \$2,000, jail up to two years, or both. (Permissible fines are increased significantly by the Sentencing Reform Act of 1984, as amended in 1987, which is summarized separately in this Handbook.)

All guns, traps, nets, vessels, vehicles and other equipment used in pursuing, hunting, taking, trapping, ensnaring, capturing, killing, or any attempt on a migratory bird in violation of the Act with the intent to sell or barter, must be forfeited to the U.S. and may be seized and held pending prosecution of the violator. The property is to be disposed of and accounted for by the Secretary. § 707.

**Miscellaneous.** The Act should not be construed to prevent states and territories from making or enforcing laws or regulations not inconsistent with the Act or which give further protection to migratory birds, nests and eggs, if such laws and regulations do not extend open seasons. § 708.

The Act cannot be construed to prevent the breeding of migratory game birds on farms and preserves, and the sale of birds lawfully bred to increase the food supply. § 711.

In accordance with the various migratory bird treaties and conventions, the Secretary is authorized to issue regulations to assure

that the taking of migratory birds and their eggs by the indigenous inhabitants of Alaska is permitted for their nutritional and other essential needs during established seasons. § 712.

FULL MBTA

# MIGRATORY BIRD TREATY ACT

(16 U.S.C. 703-712)

## § 703. Taking, killing, or possessing migratory birds unlawful

Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or eggs of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof, included in the terms of the conventions between the United States and Great Britain for the protection of migratory birds concluded August 16, 1916 (39 Stat. 1702), the United States and the United Mexican States for the protection of migratory birds and game mammals concluded February 7, 1936, the United States and the Government of Japan for the protection of migratory birds and birds in danger of extinction, and their environment concluded March 4, 1972 and the convention between the United States and the Union of Soviet Socialist Republics for the conservation of migratory birds and their environments concluded November 19, 1976.

HISTORY: (July 3, 1918, ch. 128, § 2, 40 Stat. 755; June 20, 1936, ch. 634, § 3, 49 Stat. 1556; June 1, 1974, Pub. L. 93-300, § 1, 88 Stat. 190; Dec. 13, 1989, Pub. L. 101-233, § 15, 103 Stat. 1977.)

**§ 704. Determination as to when and how migratory birds may be taken, killed, or possessed**

(a) Subject to the provisions and in order to carry out the purposes of the conventions, referred to in section 703 of this title, the Secretary of the Interior is authorized and directed, from time to time, having due regard to the zones of temperature and to the distribution, abundance, economic value, breeding habits, and times and lines of migratory flight of such birds, to determine when, to what extent, if at all, and by what means, it is compatible with the terms of the conventions to allow hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, or export of any such bird, or any part, nest, or egg thereof, and to adopt suitable regulations permitting and governing the same, in accordance with such determinations, which regulations shall become effective when approved by the President.

(b) It shall be unlawful for any person to--

(1) take any migratory game bird by the aid of baiting, or on or over any baited area, if the person knows or reasonably should know that the area is a baited area; or

(2) place or direct the placement of bait on or adjacent to an area for the purpose of causing, inducing, or allowing any person to take or attempt to take any migratory game bird by the aid of baiting on or over the baited area.

HISTORY: (July 3, 1918, ch. 128, § 3, 40 Stat. 755; June 20, 1936, ch. 634, §. 2, 49 Stat. 1556; 1939 Reorg. Plan No. II, § 4(f), eff. July 1, 1939, 4 F.R. 2731, 53 Stat. 1433; Oct. 30, 1998, Pub. L. 105-312, title I, § 102, 112 Stat. 2956.)

**§ 705. Transportation or importation of migratory birds; when unlawful**

It shall be unlawful to ship, transport, or carry, by any means whatever, from one State, Territory, or district to or through another

State, Territory, or district, or to or through a foreign country, any bird, or any part, nest, or egg thereof, captured, killed, taken, shipped, transported, or carried at any time contrary to the laws of the State, Territory, or district in which it was captured, killed, or taken, or from which it was shipped, transported, or carried. It shall be unlawful to import any bird, or any part, nest, or egg thereof, captured, killed, taken, shipped, transported, or carried contrary to the laws of any Province of the Dominion of Canada in which the same was captured, killed, or taken, or from which it was shipped, transported, or carried.

HISTORY: (July 3, 1918, ch. 128, § 4, 40 Stat. 755; June 20, 1936, ch. 634, § 4, 49 Stat. 1556; 1939 Reorg. Plan No. II, § 4(f), eff. July 1, 1939, 4 F.R. 2731, 53 Stat. 1433; Dec. 5, 1969, Pub. L. 91-135, § 10, 83 Stat. 282.)

#### **§ 706. Arrests; search warrants**

Any employee of the Department of the Interior authorized by the Secretary of the Interior to enforce the provisions of this subchapter shall have power, without warrant, to arrest any person committing a violation of this subchapter in his presence or view and to take such person immediately for examination or trial before an officer or court of competent jurisdiction; shall have power to execute any warrant or other process issued by an officer or court of competent jurisdiction for the enforcement of the provisions of this subchapter; and shall have authority, with a search warrant, to search any place. The several judges of the courts established under the laws of the United States, and United States magistrate judges may, within their respective jurisdictions, upon proper oath or affirmation showing probable cause, issue warrants in all such cases. All birds, or parts, nests, or eggs thereof, captured, killed, taken, sold or offered for sale, bartered or offered for barter, purchased, shipped, transported, carried, imported, exported, or possessed contrary to the provisions of this subchapter or of any regulation prescribed thereunder shall, when found, be seized and, upon conviction of the offender or upon judgment of a court of the United States that the same were captured, killed, taken, sold or offered for sale, bartered or offered for barter, purchased, shipped, transported, carried, imported, exported, or possessed contrary to the provisions of this subchapter or of any

regulation prescribed thereunder, shall be forfeited to the United States and disposed of by the Secretary of the Interior in such manner as he deems appropriate.

HISTORY: (July 3, 1918, ch. 128, § 5, 40 Stat. 756; 1939 Reorg. Plan No. II, § 4(f), eff. July 1, 1939, 4 F.R. 2731, 53 Stat. 1433; Oct. 17, 1968, Pub. L. 90-578, title IV, § 402(b)(2), 82 Stat. 1118; Nov. 8, 1978, Pub. L. 95-616, § 3(h)(1), 92 Stat. 3111; Dec. 1, 1990, Pub. L. 101-650, title III, § 321, 104 Stat. 5117.)

### **§ 707. Violations and penalties; forfeitures**

(a) Except as otherwise provided in this section, any person, association, partnership, or corporation who shall violate any provisions of said conventions or of this subchapter, or who shall violate or fail to comply with any regulation made pursuant to this subchapter shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined not more than \$15,000 or be imprisoned not more than six months, or both.

(b) Whoever, in violation of this subchapter, shall knowingly-

(1) take by any manner whatsoever any migratory bird with intent to sell, offer to sell, barter or offer to barter such bird, or

(2) sell, offer for sale, barter or offer to barter, any migratory bird shall be guilty of a felony and shall be fined not more than \$2,000 or imprisoned not more than two years, or both.

(c) Whoever violates section 704(b)(2) of this title shall be fined under title 18, imprisoned not more than 1 year, or both.

(d) All guns, traps, nets and other equipment, vessels, vehicles, and other means of transportation used by any person when engaged in pursuing, hunting, taking, trapping, ensnaring, capturing, killing, or attempting to take, capture, or kill any migratory bird in violation of this subchapter with the intent to offer for sale, or sell, or offer for barter, or barter such bird in violation of this subchapter shall be forfeited to the United States and may be seized and held pending the prosecution of any person arrested for violating this subchapter

and upon conviction for such violation, such forfeiture shall be adjudicated as a penalty in addition to any other provided for violation of this subchapter. Such forfeited property shall be disposed of and accounted for by, and under the authority of, the Secretary of the Interior.

HISTORY: (July 3, 1918, ch. 128, § 6, 40 Stat. 756; June 20, 1936, ch. 634, § 2, 49 Stat. 1556; Sept. 8, 1960, Pub. L. 86-732, 74 Stat. 866; Nov. 10, 1986, Pub. L. 99-645, title V, § 501, 100 Stat. 3590; Oct. 30, 1998, Pub. L. 105-312, title I, § 103, 112 Stat. 2956.)

### **§ 708. State or Territorial laws or regulations**

Nothing in this subchapter shall be construed to prevent the several States and Territories from making or enforcing laws or regulations not inconsistent with the provisions of said conventions or of this subchapter, or from making or enforcing laws or regulations which shall give further protection to migratory birds, their nests, and eggs, if such laws or regulations do not extend the open seasons for such birds beyond the dates approved by the President in accordance with section 704 of this title.

HISTORY: (July 3, 1918, ch. 128, § 7, 40 Stat. 756; June 20, 1936, ch. 634, § 2, 49 Stat. 1556.)

### **§ 709. Omitted**

#### **§ 709a. Authorization of appropriations**

There is hereby authorized to be appropriated, from time to time, out of any money in the Treasury not otherwise appropriated, such amounts as may be necessary to carry out the provisions and to accomplish the purposes of said conventions and of this subchapter and regulations made pursuant thereto, and the Secretary of the Interior is authorized out of such moneys to employ in the city of Washington and elsewhere such persons and means as he may deem necessary for such purpose and may cooperate with local authorities in the protection of migratory birds and make the necessary investigations connected therewith.

HISTORY: (July 3, 1918, ch. 128, § 9, as added June 20, 1936, ch. 634, § 5, 49 Stat. 1556; amended 1939 Reorg. Plan No. II, § 4(f), eff. July 1, 1939, 4 F.R. 2731, 53 Stat. 1433.)

### **§ 710. Partial invalidity; short title**

If any clause, sentence, paragraph, or part of this subchapter, which shall be known by the short title of the "Migratory Bird Treaty Act", shall, for any reason, be adjudged by any court of competent jurisdiction to be invalid, such judgment shall not affect, impair, or invalidate the remainder thereof, but shall be confined in its operation to the clause, sentence, paragraph, or part thereof directly involved in the controversy in which such judgment shall have been rendered.

HISTORY: (July 3, 1918, ch. 128, §§ 1, 10, 40 Stat. 755, 757.)

### **§ 711. Breeding and sale for food supply**

Nothing in this subchapter shall be construed to prevent the breeding of migratory game birds on farms and preserves and the sale of birds so bred under proper regulation for the purpose of increasing the food supply.

HISTORY: (July 3, 1918, ch. 128, § 12, 40 Stat. 757.)

### **§ 712. Treaty and convention implementing regulations; seasonal taking of migratory birds for essential needs of indigenous Alaskans to preserve and maintain stocks of the birds; protection and conservation of the birds**

(1) In accordance with the various migratory bird treaties and conventions with Canada, Japan, Mexico, and the Union of Soviet Socialist Republics, the Secretary of the Interior is authorized to issue such regulations as may be necessary to assure that the taking of migratory birds and the collection of their eggs, by the indigenous inhabitants of the State of Alaska, shall be permitted for their own nutritional and other essential needs, as determined by the Secretary of the Interior, during seasons established so as to provide for the

preservation and maintenance of stocks of migratory birds.

(2) The Secretary of the Interior is authorized to issue such regulations as may be necessary to implement the provisions of the convention between the United States and Great Britain for the protection of migratory birds concluded August 16, 1916, the convention between the United States and the United Mexican States for the protection of migratory birds and game mammals concluded February 7, 1936, the convention between the United States and the Government of Japan for the protection of migratory birds in danger of extinction, and their environment concluded March 4, 1972, and the convention between the United States and the Union of Soviet Socialist Republics for the conservation of migratory birds and their environment concluded November 19, 1976.

HISTORY: (Nov. 8, 1978, Pub. L. 95-616, § 3(h)(2), (3), 92 Stat. 3112.)

**APPENDIX B**  
**Regional Water Supply**

## **Regional Water Supply**

The Town of Apple Valley is supplied with water by several different water purveyors, the largest being the Apple Valley Rancho Water Company, which serves about 80% of the Town, and the next largest being the Golden State Water Company. All of the Town's water purveyors, however, draw all of their water from the same source: the Mojave Groundwater Basin (the "Basin"). The Basin is managed pursuant to a groundwater rights adjudication settled by a stipulated judgment. The stipulated judgment established the Mojave Water Agency ("MWA") as watermaster of the Basin. Pursuant to the judgment, groundwater users, including the Apple Valley water purveyors, may overproduce beyond their "Free Production Allowance" provided that they pay for the Mojave Water Agency to purchase water for recharge into the Basin to make up for the overproduction. The source of this water is the State Water Project ("SWP"), to which Mojave Water Agency is a contracted customer. Thus, the availability and reliability of State Water Project supplies, which allows the overproduction from Basin wells needed to meet the Town's water demands, is of importance.

The State Water Project conveys Sierra Nevada snowmelt and runoff through the Sacramento River (and others) into the San Francisco Bay-Delta and then southward via a series of reservoirs and aqueducts to Southern California. In recent times, several developments have arisen that do or could result in reductions in exports of San Francisco Bay-Delta waters via the State Water Project and facilities. Because the water supply sources relied upon by MWA for replenishment of the Basin come from the Delta, these recent events are addressed below.

### **Reliability of Supplies from the State Water Project**

The State Water Project provides large amounts of water from the Sierra Nevada to Southern California, via a transport system comprised of rivers, reservoirs, the San Francisco Bay-Delta, and aqueducts. The SWP, as originally designed, was never in fact completed. As a consequence, the SWP has never delivered 100% of the annual water entitlements (referred to as "Table A supply")<sup>1</sup> that were promised to its customers (collectively known as the State Water Contractors, of which MWA is one). While water agencies have long acknowledged and accounted for this fact in the preparation of their future water supply projects, several additional factors exist that affect the availability and reliability of MWA's imported water supplies, including potential reductions in the export of water from the San Francisco Bay-Delta and potential regulatory and emergency constraints on the use of water conveyance facilities.

Modeling of SWP Reliability. The California Department of Water Resources ("DWR") oversees the operation of the State Water Project. Beginning in 2003, DWR has published a "SWP Delivery Reliability Report" every two years (the "DWR Reliability Report"). The most recent edition was the 2007 DWR Reliability Report, the final version of which was released in August 2008. (The Final 2007 DWR Reliability Report is incorporated herein by reference.) According to the DWR Reliability Report, the long-term average delivery of contractual amounts of SWP Table A supply is expected to range from 63 percent under current (2007) conditions to between 66 and 69 percent under future (2027) conditions. Within that long-term average, SWP Table A deliveries can range from 6 percent (single dry year) to 90 percent of contractual amounts under current (2007) conditions, and from 6 to 7 percent (single dry year) to 100 percent of contractual amounts under future (2027) conditions. The analyses provided in the DWR Reliability Report are based upon 82 years of historical records for

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<sup>1</sup> Table A is the portion of the State Water Contractors' contract with the state that sets out their individual rights to annual water deliveries.

rainfall and runoff that have been adjusted to reflect the current and future levels of development in the sources areas by analyzing land use patterns and projecting future land and water uses. Of key importance, the studies in the DWR Reliability Report for current (2007) through future (2027) conditions assume and account for current facility and institutional limitations.<sup>2</sup> In addition, DWR's long-term SWP delivery reliability analyses incorporate assumptions to account for potential supply shortfalls related to global climate change factors. In fact, the DWR Reliability Report accounts for potential affects of future climate change on SWP deliveries through the year 2050 by examining four climate change scenarios: weak temperature warming and weak precipitation increase in California under model PCM; modest warming and modest drying under model PCM; modest warming and modest drying under model GFDL v. 2.0; and weak temperature warming and weak precipitation increase in California under model GFDL v. 2.0. Thus, the effects of these institutional, administrative and court-ordered reductions in SWP exports, as well as the potential effects of long-term global climate change, have been extensively analyzed and accounted for by DWR's 2007 Final SWP Delivery Reliability Report.

The 29 SWP Contractors and water agencies throughout California utilize the DWR Reliability Report in their water supply analyses, planning and reporting obligations. SWP Contractors, including MWA, generally anticipate that the variability of SWP supplies may increase in the future as the Contractors request their maximum Table A amounts and as system-wide issues such as Delta exports are resolved. At the same time, however, SWP Contractors such as MWA who utilize groundwater basins to recharge their SWP deliveries, as well as other exchange and transfer arrangements, can plan to receive long-term average deliveries of 66 to 69 percent of their SWP Table A allotments.

### **Potential Reductions in Exports: "Delta Smelt".**

An important factor affecting SWP supplies is current litigation concerning operations of the SWP. In February 2005, the United States Fish and Wildlife Service ("FWS") issued a "no jeopardy" determination and biological opinion ("B.O.") analyzing impacts to the threatened delta smelt in connection with in-Delta operations of the federal Central Valley Project ("CVP") and the California SWP through the year 2030. The project/action evaluated in the B.O., formally known as the "Operations Criteria and Plan" or OCAP, included not only the projects' existing Delta pumping operations, but also proposals to increase SWP pumping by 20 percent some time during the next 30-year period and to undertake other operational changes. In February 2005, the Natural Resources Defense Council and several other groups (collectively, NRDC) filed suit in federal court against FWS and the Secretary of the Interior challenging the validity of the OCAP B.O. (*Natural Resources Defense Council v. Kempthorne, et al.*, USDC Case No. 05-CV-1207-OWW.) DWR, as well as groups representing the public agencies that hold contracts to receive water from the CVP and SWP, intervened in the action. In May 2007, Federal District Court Judge Oliver Wanger determined that the B.O. violated the requirements of the federal Endangered Species Act (ESA). At about the same time, FWS and the Bureau of Reclamation, the operator of the CVP, decided to reinstate ESA Section 7 consultation regarding how the projects affect the delta smelt. While the two agencies were preparing the necessary documentation to produce a new B.O., NRDC asked the Court to impose an "interim remedy" which would be effective until the new B.O. was completed.

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<sup>2</sup> These limitations include water quality issues, fishery protections, export curtailments and other requirements under State Board Water Rights Decision 1641, the Vernalis Adaptive Management Plan (VAMP) as described in the 2004 Operations Criteria and Plan (OCAP), and recent court-ordered in-Delta flow targets in Old and Middle Rivers to protect delta smelt (such as *Natural Resources Defense Council v. Kempthorne*), as well as potential effects of Delta levee failures and other seismic or flood events

On December 14, 2007, the Court issued its “Final Interim Remedial Order (Findings of Fact and Conclusions of Law)” (Final Order), which sets forth temporary restrictions on Delta exports from the SWP and CVP, which restrictions are based on flow rates in certain significant rivers near the export facilities and information concerning the distribution and spawning status of delta smelt (a copy of the Court’s Final Order is incorporated herein by reference). Estimated potential water supply losses resulting from the Final Order were as follows: (1) Loss of 9 to 29 percent (or 512,000 to 1,741,000 acre-feet) if 2007-2008 was an average water year; and (2) Loss of 3 to 19 percent (or 80,000 to 627,000 acre-feet) if 2007-2008 was a dry water year. Notably, these figures represented total restrictions to the SWP and CVP combined. DWR indicated that SWP losses would be assumed to be half of any total delivery reduction. By adopting these interim measures, Judge Wanger left in place the incidental take statement set forth in the 2005 B.O., pending release of the new B.O. This allowed the CVP and SWP to legally operate and take delta smelt pending issuance of a new B.O., which the Court ordered to be completed no later than December 15, 2008. For the 2007-2008 water year, actual reductions to SWP supplies as a result of the *Kempthorne* decision were estimated to be approximately 500,000 acre-feet.

### **New U.S. Fish and Wildlife Service Biological Opinion for Delta Smelt**

On December 15, 2008, FWS issued a new B.O. regarding the effects of CVP and SWP operations on delta smelt. According to preliminary information published by the DWR, which operates the SWP, the new B.O. will continue reductions in SWP and CVP exports from the Delta that were in effect since December 2007 under the federal court order in *Kempthorne*, discussed in the Water Supply Assessment. DWR has estimated that under average water year conditions, the “most likely” result of the new B.O. is a one percent increase in the amount of available SWP supplies in comparison to the *Kempthorne* restrictions, although a worst-case scenario could result in a 13 percent decrease in available supplies. Under dry water year conditions, DWR states the “most likely” result of the new B.O. is the exact same type of potential restrictions as set forth in *Kempthorne*, although restrictions could possibly increase by 21 percent under a worst-case scenario. (See [www.water.ca.gov/news/newsreleases/2008/121508swpimpacts.pdf](http://www.water.ca.gov/news/newsreleases/2008/121508swpimpacts.pdf).) As with the *Kempthorne* order, potential water supply restrictions under the new B.O. are dependent on various factors that cannot be predicted with a high degree of certainty, including hydrologic conditions, migratory and reproductive patterns of delta smelt, and other factors affecting delta smelt abundance in the Delta. Potential litigation that could be filed by environmental groups or water supply agencies concerning the validity of the new B.O. gives rise to the additional possibility that SWP delivery reductions as set forth by the final order in *Kempthorne* could be in place pending final legal resolution of the new B.O. In light of these various factors, the degree to which SWP deliveries may be reduced under the new B.O. for delta smelt remains speculative at this time.

### **California Fish and Game Commission Emergency Take Regulation for Longfin Smelt**

A more recent factor having the potential to affect the availability and reliability of SWP supplies is the March 4, 2009 decision by the California Fish and Game Commission (Commission) to list the longfin smelt as a “threatened” species under the California Endangered Species Act (CESA). The longfin smelt is a small pelagic fish species, related to the delta smelt, whose habitat includes the Sacramento-San Joaquin Delta, among other areas along the West Coast. Under CESA, a “threatened species” is a native species or subspecies that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future absent special protection and management efforts. CESA sets forth a general prohibition against the “take” of a threatened species

(defined as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch capture, or kill) except as otherwise authorized under CESA. One such authorization is provided by California Fish and Game Code section 2081, wherein the California Department of Fish and Game (DFG) may authorize the incidental taking of a threatened species in connection with an otherwise lawful activity through the issuance of a permit. On February 29, 2009, DFG issued Incidental Take Permit No. 2081-2009-001-03 (Permit) to DWR as the owner and operator of the SWP. The Permit applies to the ongoing and long-term operation of the SWP’s facilities in the Delta, including Clifton Court Forebay, the John E. Skinner Fish Facility, the Harvey O. Banks Pumping Plant and the North Bay Aqueduct, and authorizes DWR to incidentally take longfin smelt in connection with its operation of the SWP, provided the terms and conditions of the Permit are satisfied. The Permit imposes operating restrictions on the SWP facilities that are based in large part on the restrictions imposed on the SWP by the new B.O. issued by FWS for delta smelt (see above). As with the B.O. for delta smelt, potential water supply restrictions under the Permit are dependent on various factors that cannot be predicted with a high degree of certainty, including hydrologic conditions in the Delta region, migratory and reproductive patterns of longfin smelt, and other factors affecting longfin smelt abundance in the Delta. DWR has not indicated whether any particular reductions in SWP exports are likely to result from the Permit. Due to a number of alleged scientific and other deficiencies in the Permit, an organization of water agencies holding contracts to receive SWP supplies from DWR has filed a complaint in Sacramento County Superior Court challenging the Permit. (See *State Water Contractors v. California Dept. of Fish and Game, et al.*, Sac. Sup. Ct. Case No. 34-2009-80000203.) That case has brought DFG’s ability to enforce the Permit into question. In light of the foregoing factors, potential reductions in SWP supplies resulting from DFG’s Incidental Take Permit for longfin smelt remain speculative at this time.

### **Department of Water Resources’ Final SWP Delivery Reliability Report**

Recently, DWR issued its 2007 Final SWP Delivery Reliability Report (DWR Reliability Report; published August 2008). (The DWR Reliability Report is incorporated herein by reference.) According to the DWR Reliability Report, the long-term average delivery of contractual amounts of SWP Table A supply is expected to range from 63 percent under current (2007) conditions to between 66 and 69 percent under future (2027) conditions. (DWR Reliability Report, pp. 44-45, 51-52, 55-56, 78.) Within that long-term average, SWP Table A deliveries can range from 6 percent (single dry year) to 90 percent of contractual amounts under current (2007) conditions (DWR Reliability Report, p. 44.), and from 6 to 7 percent (single dry year) to 100 percent of contractual amounts under future (2027) conditions. (DWR Reliability Report, pp. 51, 55-56.) The analyses provided in the DWR Reliability Report are based upon 82 years of historical records for rainfall and runoff that have been adjusted to reflect the current and future levels of development in the sources areas by analyzing land use patterns and projecting future land and water uses. (DWR Reliability Report, p. 20) Of key importance, the studies in the DWR Reliability Report for current (2007) through future (2027) conditions assume and account for current facility and institutional limitations, including water quality issues, fishery protections, export curtailments and other requirements under State Board Water Rights Decision 1641, the Vernalis Adaptive Management Plan (VAMP) as described in the 2004 Operations Criteria and Plan (OCAP), and recent court-ordered in-Delta flow targets in Old and Middle Rivers to protect delta smelt (see discussion below regarding litigation in *Natural Resources Defense Council v. Kempthorne*), as well as potential effects of Delta levee failures and other seismic or flood events. (See DWR Reliability Report, pp. 8, 16, 18-21, 27, 30, 32, 35, 37-39, Appendices A and B.) In addition, DWR’s long-term SWP delivery reliability analyses incorporate assumptions to account for potential supply shortfalls related to global climate change factors. (Ibid.) In fact, the DWR Reliability Report accounts for potential affects of future climate change on SWP deliveries through the year 2050 by

examining four climate change scenarios: weak temperature warming and weak precipitation increase in California under model PCM; modest warming and modest drying under model PCM; modest warming and modest drying under model GFDL v. 2.0; and weak temperature warming and weak precipitation increase in California under model GFDL v. 2.0. (See DWR Reliability Report, pp. 1, 17, 27, 37-39, 43, Appendices A and B.) Thus, the effects of these institutional, administrative and court-ordered reductions in SWP exports, as well as the potential effects of long-term global climate change, have been extensively analyzed and accounted for by DWR's 2007 Final SWP Delivery Reliability Report.

### **Recent Litigation-Related Developments**

SWP and CVP operations have also been challenged in a separate litigation matter, entitled *Pacific Coast Federation of Fishermen's Association / Institute for Fisheries Resources, et al. v. Gutierrez, et al.*, (USDC Case No. 1:06-CV-00245-OWW). In October 2004, the National Marine Fisheries Service (NMFS) issued a "no jeopardy" determination and biological opinion (B.O.) analyzing impacts to threatened winter and spring-run salmon and steelhead trout in connection with SWP and CVP operations in the Delta through the year 2030. As with the *Kemphorne* case above, the project/action evaluated in the NMFS B.O. included current and future Delta pumping operations under the Operations and Criteria Plan (OCAP). In August 2005, several environmental plaintiff groups filed suit in federal court against NMFS and the Secretary of Commerce challenging the validity of the B.O. Several public agencies that hold contracts to receive water from the CVP and SWP intervened in the action. The plaintiffs later filed an amended complaint and thereafter the case was stayed for a period of time while the parties attempted to negotiate a settlement of the issues. The stay was later lifted and, in May 2007, the plaintiffs filed a motion for summary judgment to invalidate the B.O. without a trial. Similar to the situation discussed above in the *Kemphorne* case, NMFS and the Bureau of Reclamation decided, notwithstanding the outcome of the litigation, to reinstate ESA Section 7 consultation regarding how the projects affect the protected anadromous species. Thus, the two agencies are now preparing the necessary documentation to produce a new B.O. A hearing on the summary judgment motions in the *Gutierrez* case was held on October 3, 2007 and on April 16, 2008, the Court issued its decision invalidating the NMFS B.O. for failing to comply with the federal ESA. As with *Kemphorne*, the Court did not vacate the B.O., meaning that CVP and SWP operations are authorized to continue pending the preparation of a new B.O. and any interim requirements the Court may impose. The Court has ordered that new document to be completed and issued by June 2, 2009. Proceedings were scheduled thereafter to determine whether interim restrictions such as those ordered in the *Kemphorne* case would be required pending the new B.O. On July 18, 2008, Judge Wanger issued Findings of Fact and Conclusions of Law which determined, among other things, that additional water supply restrictions beyond those required in *Kemphorne* (and now the new B.O.) are not required at this time. The Court again reached the same conclusion in a more recent order dated October 21, 2008.

Another litigation matter concerning SWP operations is *Watershed Enforcers v. California Dept. of Water Resources, et al.* (Alameda County Superior Court Case No. RG06292124). In that case, a plaintiffs group filed suit against DWR alleging the SWP is being operated without "take authorization" under the California Endangered Species Act. The case was heard on November 17, 2006 and, on April 18, 2007, the Alameda County Superior Court issued a judgment granting a peremptory writ of mandate ordering DWR to cease and desist further operations of the Harvey O. Banks pumping plant facilities of the SWP unless DWR obtained proper authorization from the California Department of Fish and Game for the take of threatened and endangered salmon species and delta smelt. The trial court decision was appealed by DWR and several water agency parties and the

case was stayed pending the appeal. Due to the stay, the judgment is not in effect and DWR is not required to cease its operations of the Banks pumping plant facilities. Moreover, the parties have stipulated to extend the time for the appeal and, therefore, a final decision is not expected in the near future. For these reasons, and because the effects of SWP operations on protected fish species in the Delta are already being addressed in the *Kemphorne* and *Gutierrez* cases discussed above, the *Watershed Enforcers* case is not currently anticipated to result in additional reductions to SWP supplies.

### **Conclusions**

There are a number of variables and contingencies affecting the ability of DWR to deliver SWP water supplies to the same extent as it previously was able. Nevertheless, although climate change and environmental controls on Delta pump operations have imposed limitations on SWP deliveries, especially in dry years, the fact that the MWA only needs SWP water to recharge the Basin (as opposed to direct deliveries to consumers) gives it a great deal of flexibility in terms of when it can take SWP deliveries. Put differently, MWA can afford to take deliveries during wet years, when supplies are in relative abundance, since the Basin acts basically like a storage account that allow for overdrafting during dry years in exchange for recharge in wetter years. Thus, while SWP supplies are facing various uncertainties and challenges, MWA (and by extension, water users and purveyors in Apple Valley) should be able to continue to receive adequate imports to balance the Basin's water budget over the long term.

**APPENDIX C**  
**Greenhouse Gas Data**

**Table 1**  
**GHG's from Energy Demand for onsite Water Use**  
**at Buildout of the Proposed Project**

<b>Water Demand</b> <b>(acre/feet per year)<sup>1</sup></b>	<b>Water Demand</b> <b>(mil.gal. per year)</b>	<b>Energy Factor for</b> <b>Water Use</b> <b>(kwh/MG)</b>	<b>Energy Demand</b> <b>for Water Use</b> <b>(kwh)<sup>2</sup></b>	
95,999.80	31,281.67	13,022.00	407,349,932.96	
<b>Electricity Use</b>	<b>mwh per year</b>	<b>407,350</b>		
<b>Emissions</b>	<b>Emission Factor</b> <b>(Lbs/MWh)<sup>3</sup></b>	<b>Projected</b> <b>Emissions</b> <b>(Lbs/Year)</b>	<b>Projected</b> <b>Emissions</b> <b>(Tons/Year)</b>	<b>Metric Tons</b> <b>per Year</b>
Carbon Dioxide (CO2)	804.54	327,729,315	163,865	148,656
Methane (CH4)	0.0067	2,729	1.36	1.24
Nitrous Oxide (N2O)	0.0037	1,507	0.75	0.68
<b>Total</b>		<b>327,733,552</b>	<b>163,867</b>	<b>148,657</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>148,893</b>

1 Based on calculations for water demand as described in Section I-III: Water Resources.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 2**  
**GHG's from Energy Demand for onsite Water Use**  
**for Annexation 1 at Buildout of the Proposed Project**

Water Demand (acre/feet per year) <sup>1</sup>	Water Demand (mil. gal. per year)	Energy Factor for Water Use (kwh/MG)	Energy Demand for Water Use (kwh) <sup>2</sup>	
6,476.40	2,110.34	13,022	27,480,902.10	
<b>Electricity Use</b>		<b>mwh per year</b>	<b>27,481</b>	
Emissions	Emission Factor (Lbs/MWh) <sup>3</sup>	Projected Emissions (Lbs/Year)	Projected Emissions (Tons/Year)	Metric Tons per Year
Carbon Dioxide (CO2)	804.54	22,109,485	11,055	10,029
Methane (CH4)	0.0067	184	0.09	0.08
Nitrous Oxide (N2O)	0.0037	102	0.05	0.05
<b>Total</b>		<b>22,109,771</b>	<b>11,055</b>	<b>10,029</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>10,045</b>

1 Based on calculations for water demand as described in Section I-III: Water Resources.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 3  
GHG's from Energy Demand for onsite Water Use  
for Annexation 2 at Buildout of the Proposed Project**

<b>Water Demand (acre/feet per year)<sup>1</sup></b>	<b>Water Demand (mil. gal. per year)</b>	<b>Energy Factor for Water Use (kwh/MG)</b>	<b>Energy Demand for Water Use (kwh)<sup>2</sup></b>	
1,301.50	424.10	13,022	5,522,573.36	
<b>Electricity Use</b>	<b>mwh per year</b>	<b>5,523</b>		
<b>Emissions</b>	<b>Emission Factor (Lbs/MWh)<sup>3</sup></b>	<b>Projected Emissions (Lbs/Year)</b>	<b>Projected Emissions (Tons/Year)</b>	<b>Metric Tons per Year</b>
Carbon Dioxide (CO2)	804.54	4,443,131	2,222	2,015
Methane (CH4)	0.0067	37	0.02	0.02
Nitrous Oxide (N2O)	0.0037	20	0.01	0.01
<b>Total</b>		<b>4,443,189</b>	<b>2,222</b>	<b>2,015</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>2,019</b>

1 Based on calculations for water demand as described in Section I-III: Water Resources.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 4**  
**GHG's from Energy Demand for onsite Water Use**  
**at Buildout of the No Project**

Water Demand (acre/feet per year) <sup>1</sup>	Water Demand (mil. gal. per year)	Energy Factor for Water Use (kwh/MG)	Energy Demand for Water Use (kwh) <sup>2</sup>	
79,209.10	25,810.40	13,022	336,103,008.29	
<b>Electricity Use</b>	<b>mwh per year</b>	<b>336,103</b>		
Emissions	Emission Factor (Lbs/MWh) <sup>3</sup>	Projected Emissions (Lbs/Year)	Projected Emissions (Tons/Year)	Metric Tons per Year
Carbon Dioxide (CO2)	804.54	270,408,314	135,204	122,655
Methane (CH4)	0.0067	2,252	1.13	1.02
Nitrous Oxide (N2O)	0.0037	1,244	0.62	0.56
<b>Total</b>		<b>270,411,810</b>	<b>135,206</b>	<b>122,657</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>122,851</b>

1 Based on calculations for water demand as described in Table V-23: Water Resources.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 5**  
**GHG's from Energy Demand for onsite Water Use**  
**from Annexation 1 at Buildout of the No Project Alternative**

Water Demand (acre/feet per year) <sup>1</sup>	Water Demand (mil. gal. per year)	Energy Factor for Water Use (kwh/MG)	Energy Demand for Water Use (kwh) <sup>2</sup>	
2,076.00	676.47	13,022	8,808,960.65	
<b>Electricity Use</b>	<b>mwh per year</b>	<b>8,809</b>		
Emissions	Emission Factor (Lbs/MWh) <sup>3</sup>	Projected Emissions (Lbs/Year)	Projected Emissions (Tons/Year)	Metric Tons per Year
Carbon Dioxide (CO2)	804.54	7,087,161	3,544	3,215
Methane (CH4)	0.0067	59	0.03	0.03
Nitrous Oxide (N2O)	0.0037	33	0.02	0.01
<b>Total</b>		<b>7,087,253</b>	<b>3,544</b>	<b>3,215</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>3,220</b>

<sup>1</sup> Based on calculations for water demand as described in Table V-24.

<sup>2</sup> Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

<sup>3</sup> Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

<sup>4</sup> CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 6**  
**GHG's from Energy Demand for onsite Water Use**  
**from Annexation 2 at Buildout of the No Project Alternative**

<b>Water Demand</b> <b>(acre/feet per year)<sup>1</sup></b>	<b>Water Demand</b> <b>(mil. gal. per year)</b>	<b>Energy Factor for</b> <b>Water Use</b> <b>(kwh/MG)</b>	<b>Energy Demand</b> <b>for Water Use</b> <b>(kwh)<sup>2</sup></b>	
822.50	268.01	13,022	3,490,062.69	
<b>Electricity Use</b>	<b>mwh per year</b>	<b>3,490</b>		
<b>Emissions</b>	<b>Emission Factor</b> <b>(Lbs/MWh)<sup>3</sup></b>	<b>Projected</b> <b>Emissions</b> <b>(Lbs/Year)</b>	<b>Projected</b> <b>Emissions</b> <b>(Tons/Year)</b>	<b>Metric Tons</b> <b>per Year</b>
Carbon Dioxide (CO2)	804.54	2,807,895	1,404	1,274
Methane (CH4)	0.0067	23	0.01	0.01
Nitrous Oxide (N2O)	0.0037	13	0.01	0.01
<b>Total</b>		<b>2,807,931</b>	<b>1,404</b>	<b>1,274</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>1,276</b>

1 Based on calculations for water demand as described in Table V-24.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 7**  
**GHG's from Energy Demand for onsite Water Use**  
**at Buildout of the Less Intense Project Alternative**

Water Demand (acre/feet per year) <sup>1</sup>	Water Demand (mil. gal. per year)	Energy Factor for Water Use (kwh/MG)	Energy Demand for Water Use (kwh) <sup>2</sup>	
84,994.40	27,695.55	13,022.00	360,651,409.09	
<b>Electricity Use</b>	<b>mwh per year</b>	<b>360,651</b>		
Emissions	Emission Factor (Lbs/MWh) <sup>3</sup>	Projected Emissions (Lbs/Year)	Projected Emissions (Tons/Year)	Metric Tons per Year
Carbon Dioxide (CO2)	804.54	290,158,485	145,079	131,614
Methane (CH4)	0.0067	2,416	1.21	1.10
Nitrous Oxide (N2O)	0.0037	1,334	0.67	0.61
<b>Total</b>		<b>290,162,235</b>	<b>145,081</b>	<b>131,615</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>131,824</b>

1 Based on calculations for water demand as set forth on Table V-27.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 8**  
**GHG's from Energy Demand for onsite Water Use**  
**from Annexation Area 1 at Buildout of the Less Intense Project Alternative**

Water Demand (acre/feet per year) <sup>1</sup>	Water Demand (mil. gal. per year)	Energy Factor for Water Use (kwh/MG)	Energy Demand for Water Use (kwh) <sup>2</sup>	
2,982.90	971.98	13,022.00	12,657,152.57	
<b>Electricity Use</b>	<b>mwh per year</b>	<b>12,657</b>		
Emissions	Emission Factor (Lbs/MWh) <sup>3</sup>	Projected Emissions (Lbs/Year)	Projected Emissions (Tons/Year)	Metric Tons per Year
Carbon Dioxide (CO2)	804.54	10,183,186	5,092	4,619
Methane (CH4)	0.0067	85	0.04	0.04
Nitrous Oxide (N2O)	0.0037	47	0.02	0.02
<b>Total</b>		<b>10,183,317</b>	<b>5,092</b>	<b>4,619</b>
			<b>CO2 Equivalent per Year<sup>4</sup></b>	<b>4,626</b>

1 Based on calculations for water demand as set forth on Table V-28.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 9**  
**GHG's from Energy Demand for onsite Water Use**  
**from Annexation Area 2 at Buildout of the Less Intense Project Alternative**

Water Demand (acre/feet per year) <sup>1</sup>	Water Demand (mil. gal. per year)	Energy Factor for Water Use (kwh/MG)	Energy Demand for Water Use (kwh) <sup>2</sup>	
1,302.50	424.42	13,022.00	5,526,816.59	
<b>Electricity Use</b>	<b>mwh per year</b>	<b>5,527</b>		
Emissions	Emission Factor (Lbs/MWh) <sup>3</sup>	Projected Emissions (Lbs/Year)	Projected Emissions (Tons/Year)	Metric Tons per Year
Carbon Dioxide (CO2)	804.54	4,446,545	2,223	2,017
Methane (CH4)	0.0067	37	0.02	0.02
Nitrous Oxide (N2O)	0.0037	20	0.01	0.01
<b>Total</b>		<b>4,446,603</b>	<b>2,223</b>	<b>2,017</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>2,020</b>

1 Based on calculations for water demand as set forth on Table V-28.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 10**  
**GHG's from Energy Demand for onsite Water Use**  
**at Buildout of the More Intense Project Alternative**

<b>Water Demand</b> <b>(acre/feet per year)<sup>1</sup></b>	<b>Water Demand</b> <b>(mil. gal. per year)</b>	<b>Energy Factor for</b> <b>Water Use</b> <b>(kwh/MG)</b>	<b>Energy Demand</b> <b>for Water Use</b> <b>(kwh)<sup>2</sup></b>	
98,252.10	32,015.59	13,022.00	416,906,976.35	
<b>Electricity Use</b>	<b>mwh per year</b>	<b>416,907</b>		
<b>Emissions</b>	<b>Emission Factor</b> <b>(Lbs/MWh)<sup>3</sup></b>	<b>Projected</b> <b>Emissions</b> <b>(Lbs/Year)</b>	<b>Projected</b> <b>Emissions</b> <b>(Tons/Year)</b>	<b>Metric Tons</b> <b>per Year</b>
Carbon Dioxide (CO2)	804.54	335,418,339	167,709	152,143
Methane (CH4)	0.0067	2,793	1.40	1.27
Nitrous Oxide (N2O)	0.0037	1,543	0.77	0.70
<b>Total</b>		<b>335,422,675</b>	<b>167,711</b>	<b>152,145</b>
		<b>CO2 Equivalent per Year<sup>4</sup></b>		<b>152,387</b>

1 Based on calculations for water demand as set forth on Table V-25.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 11**  
**GHG's from Energy Demand for onsite Water Use**  
**from Annexation Area 1 at Buildout of the More Intense Project Alternative**

<b>Water Demand</b> <b>(acre/feet per year)<sup>1</sup></b>	<b>Water Demand</b> <b>(mil. gal. per year)</b>	<b>Energy Factor for</b> <b>Water Use</b> <b>(kwh/MG)</b>	<b>Energy Demand</b> <b>for Water Use</b> <b>(kwh)<sup>2</sup></b>	
7,310.70	2,382.20	13,022.00	31,021,034.99	
<b>Electricity Use</b>	<b>mwh per year</b>	<b>31,021</b>		
<b>Emissions</b>	<b>Emission Factor</b> <b>(Lbs/MWh)<sup>3</sup></b>	<b>Projected</b> <b>Emissions</b> <b>(Lbs/Year)</b>	<b>Projected</b> <b>Emissions</b> <b>(Tons/Year)</b>	<b>Metric Tons</b> <b>per Year</b>
Carbon Dioxide (CO2)	804.54	24,957,663	12,479	11,321
Methane (CH4)	0.0067	208	0.10	0.09
Nitrous Oxide (N2O)	0.0037	115	0.06	0.05
<b>Total</b>		<b>24,957,986</b>	<b>12,479</b>	<b>11,321</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>11,339</b>

1 Based on calculations for water demand as set forth on Table V-26.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 12**  
**GHG's from Energy Demand for onsite Water Use**  
**from Annexation Area 2 at Buildout of the More Intense Project Alternative**

Water Demand (acre/feet per year) <sup>1</sup>	Water Demand (mil. gal. per year)	Energy Factor for Water Use (kwh/MG)	Energy Demand for Water Use (kwh) <sup>2</sup>	
1,302.60	424.45	13,022.00	5,527,240.92	
<b>Electricity Use</b>	<b>mwh per year</b>	<b>5,527</b>		
Emissions	Emission Factor (Lbs/MWh) <sup>3</sup>	Projected Emissions (Lbs/Year)	Projected Emissions (Tons/Year)	Metric Tons per Year
Carbon Dioxide (CO2)	804.54	4,446,886	2,223	2,017
Methane (CH4)	0.0067	37	0.02	0.02
Nitrous Oxide (N2O)	0.0037	20	0.01	0.01
<b>Total</b>		<b>4,446,944</b>	<b>2,223</b>	<b>2,017</b>
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>2,020</b>

1 Based on calculations for water demand as set forth on Table V-26.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program, CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 13**  
**GHG Emissions from Indirect Electricity Use**  
**Existing Development**

<b>Electricity Use<sup>1</sup></b>	<b>kwh per year</b>	<b>317,428,730</b>	<b>mwh per year</b>	<b>317,429</b>
<b>Emissions</b>	<b>Emission Factor (Lbs/MWh)<sup>2</sup></b>	<b>Projected Emissions (Lbs/Year)</b>	<b>Projected Emissions (Tons/Year)</b>	<b>Metric Tons per Year</b>
Carbon Dioxide (CO2)	804.54	255,384,110	127,692	115,816.69
Methane (CH4)	0.0067	2,126.77	1.0634	0.96
Nitrous Oxide (N2O)	0.0037	1,174.49	0.5872	0.53
<b>Total</b>		<b>255,387,412</b>	<b>127,694</b>	<b>115,818.19</b>
			<b>CO2 Equivalent per Year<sup>3</sup></b>	<b>116,002.06</b>

1 Electricity Usage rate is estimated using SCAQMD CEQA Handbook, Table A9-11-A, 1993.

2 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

3 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

Note that electricity consumption does not consider the transport of water.

**Table 14**  
**GHG Emissions from Existing Natural Gas Use**  
**Existing Development**

	<b>Cubic Feet per Day</b>	<b>Cubic Feet per Year</b>	<b>MMBtu<sup>2</sup></b>
<b>Natural Gas Use<sup>1</sup></b>	<b>6,377,858</b>	<b>2,327,918,328</b>	<b>2,393,100</b>
<b>Emission</b>	<b>Factor</b>	<b>Projected Emissions (kg/Year)</b>	<b>Projected Emissions (Tons/Year)</b>
<b>Carbon Dioxide (CO<sub>2</sub>)<sup>3</sup></b>	0.0546 kg CO <sub>2</sub> /cubic foot	127,104,341	140,107
<b>Methane (CH<sub>4</sub>)<sup>4</sup></b>	0.0059 kg CH <sub>4</sub> /MMBtu	14,119.29	15.56
<b>Nitrous Oxide (N<sub>2</sub>O)<sup>4</sup></b>	0.0001 kg N <sub>2</sub> O/MMBtu	239.31	0.26
<b>Total</b>		<b>127,118,699</b>	<b>140,122.94</b>
			<b>127,077.15</b>
			<b>14.12</b>
			<b>0.24</b>
			<b>127,447.76</b>

<sup>1</sup> Natural Usage rate is estimated using SCAQMD CEQA Handbook, Table A9-12, 1993.

<sup>2</sup> Btu assumes 1,028 Btu per cubic foot. "Table A4 Approximate Heat Content of Natural Gas 1949-2007," energy information administration.

<sup>3</sup> "Calculations and References," of the Greenhouse Gas Equivalencies Calculator, prepared by EPA and last updated on August 4, 2008.

<sup>4</sup> Emission factors from "California Climate Action Registry General Reporting Protocol: Equations III.8d," version 3.0 prepared by California Climate Action Registry, April 2008.

<sup>5</sup> CO<sub>2</sub> Equivalent is based on SAR (1996) global warming potential of 21 for CH<sub>4</sub> and 310 for N<sub>2</sub>O.

**Table 15  
GHG Emissions from Moving Sources  
Existing Development**

Vehicle Type	Miles		Gallons Per	
	Per Day <sup>1</sup>	Per Year	Year <sup>2</sup>	Year <sup>2</sup>
Passenger Car	2,085,629	761,254,636	38,642,367.31	
Light Duty Truck	42,564	15,535,809	788,619.74	
<b>Total</b>	<b>2,128,193</b>	<b>776,790,445</b>	<b>39,430,987</b>	

GHG Emission Type	Emission		Metric Tons per Year	CO2 Equivalent per Year <sup>7</sup>
	Emission Factor Passenger Car <sup>5</sup>	Factor Light Duty Truck <sup>6</sup>		
Carbon Dioxide (CO2) <sup>3</sup>	0.00881	0.00881	347,387	347,387
Methane (CH4) <sup>4</sup>	0.04	0.05	31.23	656
Nitrous Oxide (N2O) <sup>4</sup>	0.04	0.06	31.38	9,729
<b>Total</b>			<b>347,450</b>	<b>357,771</b>

1 Miles per year are based on the "Town of Apple Valley General Plan Circulation Element Traffic Study," Table 2-9: Model Validation Results, prepared by Urban Crossroads Engineering, November 24, 2008. The mix of vehicles assumes 98 percent of total miles traveled are passenger cars and 2 percent are light duty trucks. (Page 46)

2 To quantify the estimated gallons of gasoline that the project will use per year for the Moving Source component, 19.7 miles per gallon was assumed.

3 Emission factor for CO2 is from "Calculations and References," of the Greenhouse Gas Equivalencies Calculator, prepared by EPA and last updated on August 4, 2008.

4 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

5 Passenger cars are based on factors given for the use of gasoline and are based on model year 2000 to present.

6 Light duty trucks assume the use of gasoline and are based on model year 2000 to present.

7 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 16**  
**GHG's from Energy Demand for onsite Water Use**  
**Existing Development**

<b>Water Demand</b> <b>(acre-feet per year)<sup>1</sup></b>	<b>Water Demand</b> <b>(mil. gal. per year)</b>	<b>Energy Factor for</b> <b>Water Use</b> <b>(kwh/MG)</b>	<b>Energy Demand</b> <b>for Water Use</b> <b>(kwh)<sup>2</sup></b>	
31,211.87	10,170.43	13,022.00	132,439,371.25	
<b>Electricity Use</b>		<b>132,439</b>		
	<b>Emission Factor</b>	<b>Projected</b>	<b>Projected</b>	
<b>Emissions</b>	<b>(Lbs/MWh)<sup>3</sup></b>	<b>Emissions</b>	<b>Emissions</b>	<b>Metric Tons</b>
		<b>(Lbs/Year)</b>	<b>(Tons/Year)</b>	<b>per Year</b>
Carbon Dioxide (CO2)	804.54	106,552,772	53,276	48,332
Methane (CH4)	0.0067	887	0.44	0.40
Nitrous Oxide (N2O)	0.0037	490	0.25	0.22
<b>CO2 Equivalent per Year<sup>4</sup></b>				<b>48,409</b>

1 Based on those factors set forth in Section III EIR water resources Table III-34.

2 Electricity Usage rate is based on an average energy demand for the conveyance, treatment, and distribution of water in Southern California per the "Refining Estimates of Water-Related Energy Use in California," prepared by the California Energy Commission, Public Interest Energy Research Program. CEC-500-2006-118. December 2006.

3 Emission factors from "California Climate Action Registry General Reporting Protocol: Tables C5 and C6," version 3.0 prepared by California Climate Action Registry, April 2008.

4 CO2 Equivalent is based on SAR (1996) global warming potential of 21 for CH4 and 310 for N2O.

**Table 17**  
**GHG Summary**  
**Existing Development**

<b>Emission Source</b>	<b>CO2 Equivalent Metric Tons</b>	<b>CO2 Equivalent Million Metric Tons</b>	<b>Pounds Per Day</b>
Electricity	116,002.06	0.116	700,659.65
Natural Gas	127,447.76	0.127	769,792.39
Moving Source	357,771.29	0.358	2,160,960.72
Water Transport	48,408.88	0.048	292,392.64
<b>Total</b>	<b>649,630.00</b>	<b>0.650</b>	<b>3,923,805.40</b>

California Average Emissions  
from 2002-2004\*  
Project percentage

468.8  
0.139%

US Emissions in 2005  
Project percentage

7,260.40  
0.009%

\* Per ARB Summary for Scoping Plan

**Table 18  
Annual Electricity Demand  
for Existing Residential  
(Lbs. per 1,000 kwh)**

<b>Annual Electric Energy Usage (kwh/unit/year)</b>	<b>Total No. Dwelling Units</b>	<b>Total Annual Electric Usage (kwh)</b>
5,626.50	24,925	140,240,513

**Table 19  
Estimated Electrical Usage Rates  
for Existing Commercial Development**

<b>Land Use</b>	<b>Usage Rate</b>	<b>Unit Type</b>	<b>Square Feet</b>	<b>Annual kwh</b>
Retail / Commercial <sup>1</sup>	13.55	kwh/sq.ft./year	5,143,940	69,700,394
Office Professional <sup>2</sup>	12.95	kwh/sq.ft./year	1,607,481	20,816,884
Food Store	53.30	kwh/sq.ft./year	642,993	34,271,503
Restaurant	47.45	kwh/sq.ft./year	321,496	15,254,998
Hotel/Motel	9.95	kwh/sq.ft./year	321,496	3,198,888
<b>Total</b>			<b>8,037,407</b>	<b>143,242,668</b>

kwh= Kilowatt Hour

Source: Terra Nova Staff Estimates based on Table A9-11-A, Electricity Usage Rate, "CEQA Air Quality Handbook," prepared by the South Coast Air Quality Management District, April 1993; and the Paradise Valley Specific Plan Land Use Table I-1, July 15, 2008.

Usage rates are based on Table A9-11-A, Electricity Usage Rate, "CEQA Air Quality Handbook," prepared by the South Coast Air Quality Management District, April 1993. Assumes the following breakout of commercial uses per the Preferred Land Use Plan: 64% retail, 20% office, 8% food store, 4% restaurant, and 4% hotel/motel.

**Table 20  
Estimated Electrical Usage Rates  
for Existing Industrial Development**

<b>Land Use</b>	<b>Usage Rate</b>	<b>Unit Type</b>	<b>Square Feet</b>	<b>Annual kwh</b>
Industrial (Warehouse)	4.35	kwh/square foot/year	946,877	4,118,916
Industrial (Misc)	10.5	kwh/square foot/year	2,840,632	29,826,633
<b>Total</b>			<b>3,787,509</b>	<b>33,945,549</b>

Source: Tables A9-11-A and A9-11-B, "CEQA Air Quality Handbook," prepared by the South Coast Air Quality Management District, April 1993. Assumes continued availability and use of natural gas in power plants and an average contribution from hydro-electric sources. Represents total pounds emitted per year by all existing industrial land uses assuming that 25% are warehouse type uses and 75% are miscellaneous land uses.

**Table 21**  
**Natural Gas Emissions**  
**for Residential Development at General Plan Buildout**  
**(cubic feet per month)**

<b>Unit Type</b>	<b>Natural Gas Factor (cf/unit/mo)</b>	<b>Total No. Dwelling Units</b>	<b>Total Monthly Natural Gas Consumption</b>
Single-family	6,665.00	36,619	244,065,635
Multi-family	4,011.50	27,130	108,831,995
<b>Total:</b>		<b>63,749</b>	<b>352,897,630</b>

**Table 22**  
**Natural Gas Emissions**  
**for Commercial Development at General Plan Buildout**  
**(cubic feet per month)**

<b>Unit Type</b>	<b>Natural Gas Factor (cf/sq.ft./month)</b>	<b>Total No. Square Footage</b>	<b>Total Monthly Natural Gas Consumption</b>
Retail/Commercial	2.90	39,414,182	114,301,128
Office Professional	2.00	10,372,153	20,744,306
Hotel/Motel	4.80	2,074,431	9,957,269
<b>Total:</b>		<b>51,860,766</b>	<b>145,002,703</b>

Source: Emission Factors are from Urbemis 2007 Version 9.2.4 default settings. Represents total pounds emitted per year by all commercial development at buildout as a result of natural gas combustion. Assumes that office space occupies 20% and hotel/motel occupies 4% of all commercial land use square footage. The remaining square footage (76% of all commercial land use) represents 33,190,890 s.f of retail, 4,148,861 s.f. of food stores, and 2,074,431 s.f. of restaurant land uses

**Table 23**  
**Natural Gas Emissions**  
**for Industrial Development at General Plan Buildout**  
**(cubic feet per month)**

<b>Unit Type</b>	<b>Natural Gas Factor (cf/sq.ft./month)</b>	<b>Total No. Square Footage</b>	<b>Total Monthly Natural Gas Consumption</b>
Industrial	4.80	58,581,040	281,188,992
<b>Total:</b>			<b>281,188,992</b>

Source: Emission Factors are from Urbemis 2007 Version 9.2.4 default settings. Represents total pounds emitted per year by all industrial development at buildout as a result of natural gas combustion. Assumes that industrial use of natural gas is comparable to highest rate of retail use, at 4.8 cubic feet per month.

**APPENDIX D**  
**Apple Valley Multiple Species Habitat Conservation Plan Interim Guidelines**

## **Preliminary Draft MSHCP Interim Guidelines/Mitigation Measures**

The Town of Apple Valley is preparing a Multispecies Habitat Conservation Plan (MSHCP). It is expected that the MSHCP will be completed by December 2010. Prior to completing the MSHCP, the Town proposes to establish guidelines/mitigation measures to protect sensitive and listed species and their habitats. All projects will be subject to these guidelines. Mitigation ratios are suggestions; the actual required mitigation will be determined in consultation with the responsible agencies (U.S. Fish and Wildlife Service, California Department of Fish and Game).

### **THE MSHCP**

The MSHCP shall be drafted consistent with the *HABITAT CONSERVATION PLANNING AND INCIDENTAL TAKE PERMIT PROCESSING HANDBOOK* (HCP Guidelines) prepared by the U.S. Department of the Interior, Fish and Wildlife Service (November 4, 1996) and all subsequent guidance.

In particular, the Town will develop a land reserve system that will be designed to protect listed and sensitive species covered by the MSHCP. The reserve lands shall be selected based on their ecological significance. Factors that will be considered are plant communities and habitat types, current functional values, present or potential presence of sensitive/listed species, corridor/linkage values, amount of habitat disturbance, potential of long-term management/restoration, etc. A management plan consistent with the HCP Guidelines will be prepared, including a cost analysis. Adequate funding mechanisms will be identified and implemented. Funding will include impact fees and/or conveyance fees based upon a nexus study and a PARS or similar analysis.

### **BASELINE SUMMARY**

- The project area is approximately 167,000 acres. Approximately 1/3<sup>rd</sup>, or 55,666 acres, of the MSHCP project area is in public ownership.
- The General Plan proposes the development of approximately 32,000 acres in mostly creosote shrub habitat.
- Biological information indicates the most valuable natural resources in the area are those associated with the Mojave River.
  - The Mojave River corridor and its associated riparian habitat harbor numerous threatened and endangered species and species of special concern, some of which are endemic to area.
  - The River corridor also provides valuable ecosystem functions and linkages that must be preserved.
- Desert tortoise populations in the area are generally considered to be low.
  - The MSHCP project area is southwest of the Desert Wildlife Management Areas (DWMAs) and designated critical habitat for the species.
  - Major wildlife corridors for this species are north and east of the project area.

- The project area has a low potential to provide habitat for the Mohave ground squirrel. The core population identified for this species is northwest of the project area.
- The MSHCP is within the Planning Area for the West Mojave Habitat Conservation Plan and Conservation Banking Plan (draft WEMO),<sup>1</sup> which is in preparation, and will be as consistent as possible with the guidelines developed in the draft WEMO. However, the draft WEMO does not adequately address the Town's unique habitat needs or cover all of the listed and other sensitive species found within the MSHCP's planning area.

### **SPECIES LISTS**

The list of species to be covered, or that are under consideration for coverage, by the MSHCP is attached.

### **MAPS**

The following MSHCP Maps are attached:

- MSHCP Planning Area Map
- MSHCP Habitat Map
- MSHCP Land Ownership Map

### **DEFINITIONS**

- Buffer Areas – The area surrounding a drainage, playa, steep slope, or reserve lands that helps to protect the functions and values of that feature by reducing physical disturbance from noise, activity, etc., and provides a transition zone.
- Covered Species – Those species included in the incidental take authorization issued by the federal or state governments as part of the Town's MSHCP.
- Drainages – Natural or man-made channels that either contain surface flows during a 2-year or greater storm event or considered jurisdictional by either the U.S. Army Corps of Engineers and/or the California Department of Fish and Game. This term includes associated riparian vegetation such as freshwater marsh, riparian woodlands, riparian scrub, etc.
- Linkages/Connectivity – Linkages and corridors are areas that facilitate local or regional wildlife movement. They are generally centered on linear features such as waterways, riparian corridors, flood control channels, contiguous habitats, and upland habitats. For example, drainages can serve as movement corridors because wildlife can move easily through these areas. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals.
- Listed Species – Species listed as threatened or endangered under the State and/or federal Endangered Species Acts.

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<sup>1</sup> The draft WEMO is an ongoing planning effort to develop a private lands HCP in the West Mojave by San Bernardino, Inyo, Kern, and Los Angeles counties and some local jurisdictions including the Town of Apple Valley.

- Playas – Dry lakes that collect the drainage from surrounding areas and are periodically flooded. Usually drainage channels become less defined, covered with water-borne sediments.
- Reserve Lands – Those lands that have been included within a designated conservation area. Reserve lands shall provide the necessary habitat quantity, quality and connectivity to support the region’s biodiversity.
- Steep Slopes – Landforms, including rocky outcrops, with a slope of 25 percent or greater.
- Vegetation Communities – Recognized plant associations such as those used by the California Department of Fish and Game and/or Holland, 1986.

**MSHCP SCHEDULE**

Approval of the MSHCP is anticipated in December 2010. It is expected that maps of sensitive habitats and conservation areas will be completed by October 2009 for use by the Town .

**INTERIM GUIDELINES**

Prior to the approval of the MSHCP, the Town will require the following:

A biological survey report for all proposed development projects. The report will include:

- Description and map of the vegetative communities;
- Description and map of biological resources on the property or potentially on the property;
- Description and map of all drainages/playa with accompanying jurisdictional delineation;
- Description, assessment, and map of wildlife corridors and linkages;
- Surveys (using accepted protocol, if available) of listed and sensitive species potentially present; and
- A map showing the location/territories of listed and sensitive species on the property.

The assessment also will provide a discussion of avoided impacts and a list of proposed mitigation measures. All reports documenting the presence of listed species will be forwarded to the responsible agencies.

In addition, the project applicant will provide an assessment of the direct and indirect project impacts to habitat types, drainages/playas/buffers, and sensitive/listed species. The assessment will also consider whether development of a site would impair the effectiveness of linkage corridors as identified in the General Plan. Cumulative impacts would also be assessed.

The Town will determine the required mitigation on a case-by-case basis, as determined by the technical data accumulated through the preparation of the biological survey report/assessment. The required mitigation is to reduce impacts to below a level of significance and will consist of actions that either

- compensate for the impacts by replacing or providing substitute habitat, or
- rectify the impact by restoring the affected habitats

The mitigation requirement will be based on the type and location of the impacted habitat and the resources on the project site. For project's proposing to restore, enhance or create habitats as mitigation, the project proponent will prepare a Mitigation Plan consistent with requirements in the ACOE Mitigation Rule (*Compensatory Mitigation for Losses of Aquatic Resources, 33 CFR Part 332*).

In the case of drainages and playas other than the Mojave River, the preferred method of mitigation is avoidance. For unavoidable impacts, mitigation will be provided on at least a 1:1 ratio. Unavoidable impacts shall be minimized to the maximum extent practicable. Whether or not an impact is unavoidable will be determined on a case-by-case basis. In addition, the applicant will:

- Provide a buffer for all retained drainages. The buffer will be a minimum of 50 feet in width.
- Confer with the appropriate federal and state agencies and provide documentation to the Town that all required permits have been received prior to issuance of a grading permit.

For the Mojave River, all impacts shall be avoided, except for essential public facilities projects where no feasible alternative exists. Unavoidable impacts will require the following:

- State and federal delineation report;
- Surveys using required protocols, if available, of listed and sensitive species;
- Construction timing limits to minimize impacts;
  - For example, generally no grading would be allowed from March 1 to August 30 to avoid impacts to listed avian species.
- Mitigation to be provided at a minimum 2:1 ratio for impacts to habitat; mitigation to be implemented in the vicinity of the impact; and
- Development of a Mitigation Plan consistent with requirements in the ACOE Mitigation Rule (*Compensatory Mitigation for Losses of Aquatic Resources, 33 CFR Part 332*).

In the case of endemic plants, the preferred method of mitigation is avoidance. Species may be considered adequately conserved if translocation/restoration of the species is provided at the project level of at least a 2:1 ratio and the translocation/restoration is deemed successful based on the mitigation plan's performance criteria.

In areas with steep slopes, all impacts should be avoided, except for essential public facilities projects where no feasible alternative exists. Mitigation for unavoidable impacts will be developed on a case-by-case basis. A buffer area of 100 feet will be provided at the base of such slopes.

The preferred landscaping of all projects is the use of native species. Planting of invasive species is prohibited. The Town will develop a list of prohibited plants by September 2009.

Higher mitigation ratios can apply in cases where it is determined necessary after consultations with the responsible agencies.

In all cases, mitigation sites must have long-term viability. Long-term viability includes addressing any short-term management issues, providing an adequately funded long-term management plan based on a PARS or similar analysis, and placing a conservation easement over the site and/or providing fee title to a suitable management entity or the Town for management as conservation lands. Mitigation may also be in the form of purchasing mitigation credits at an appropriate agency approved mitigation bank.

In addition, until the MSHCP is approved, each individual project must show compliance with the State and federal Endangered Species Acts. The project proponent must provide the Town either copies of the State and/or federal Endangered Species Act permits or statements that such permits are not needed prior to the issuance of a grading permit. In addition, the project proponent must implement each special condition of the permit. If there is a difference between the requirements in the Town's approval and such permits, the conditions in the permits shall control.

After implementation of the above mitigation measures, for those projects that still have a potentially significant impact, further mitigation shall be required. For these types of projects, it may be the case that mitigation/conservation ratios for habitat impacts will need to be adjusted upwards and/or offsite mitigation areas acquired. In all cases, unless mitigation can be devised that would result in reducing the impact to a less than significance level, an Environmental Impact Report would be required, and a statement of overriding considerations would have to be adopted showing that the project benefits outweigh the negative effect of rendering a known habitat area ineffective for the purposes of conserving resident special status species and/or plant communities.

# Species List\*

## Town of Apple Valley

### Multi-Species Habitat Conservation Plan

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#### Species to be Included in Plan:

##### Mammals

Mohave Ground Squirrel	( <i>Spermophilus mohavensis</i> )
Mohave River Vole	( <i>Microtus californicus mohavensis</i> )
Pallid San Diego Pocket Mouse	( <i>Chaetodipus fallax</i> )

##### Reptiles

Desert Tortoise	( <i>Gopherus agassizii</i> )
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##### Birds

Bendire's Thrasher	( <i>Toxostoma bendirei</i> )
Burrowing Owl	( <i>Athene cunicularia</i> )
Le Conte's Thrasher	( <i>Toxostoma lecontei</i> )
Least Bell's Vireo	( <i>Vireo bellii pusillus</i> )
Southwestern Willow Flycatcher	( <i>Empidonax traillii extimus</i> )
Summer Tanager	( <i>Prianga rubra</i> )
Yellow-breasted Chat	( <i>Icteria virens</i> )
Western Yellow-billed Cuckoo	( <i>Coccyzus americanus occidentalis</i> )

##### Invertebrates

Victorville Shoulderband	( <i>Helminthoglypta mohaveana</i> )
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##### Fish

Mohave Tui Chub	( <i>Gila bicolor mohavensis</i> )
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##### Plants

San Bernardino Aster	( <i>Symphyotrichum defoliatum</i> )
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#### Species Needing Further Evaluation:

##### Mammals

Hoary Bat	( <i>Lasiurus cinereus</i> )
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##### Reptiles

Coast (San Diego) Horned Lizard	( <i>Phrynosoma coronatum blainvillii</i> )
Southwestern Pond Turtle	( <i>Actinemys marmorata pallida</i> )

##### Birds

Brown-crested Flycatcher	( <i>Myiarchus tyrannulus</i> )
Cooper's Hawk	( <i>Accipter cooperii</i> )

# Species List\*

## Town of Apple Valley

### Multi-Species Habitat Conservation Plan

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Prairie Falcon (*Prairie falcon*)  
Swainson's Hawk (*Buteo swainsoni*)

#### Birds Continued

Vermillion Flycatcher (*Pyrocephalus rubinus*)  
Yellow Warbler (*Dendroica petechia brewsteri*)

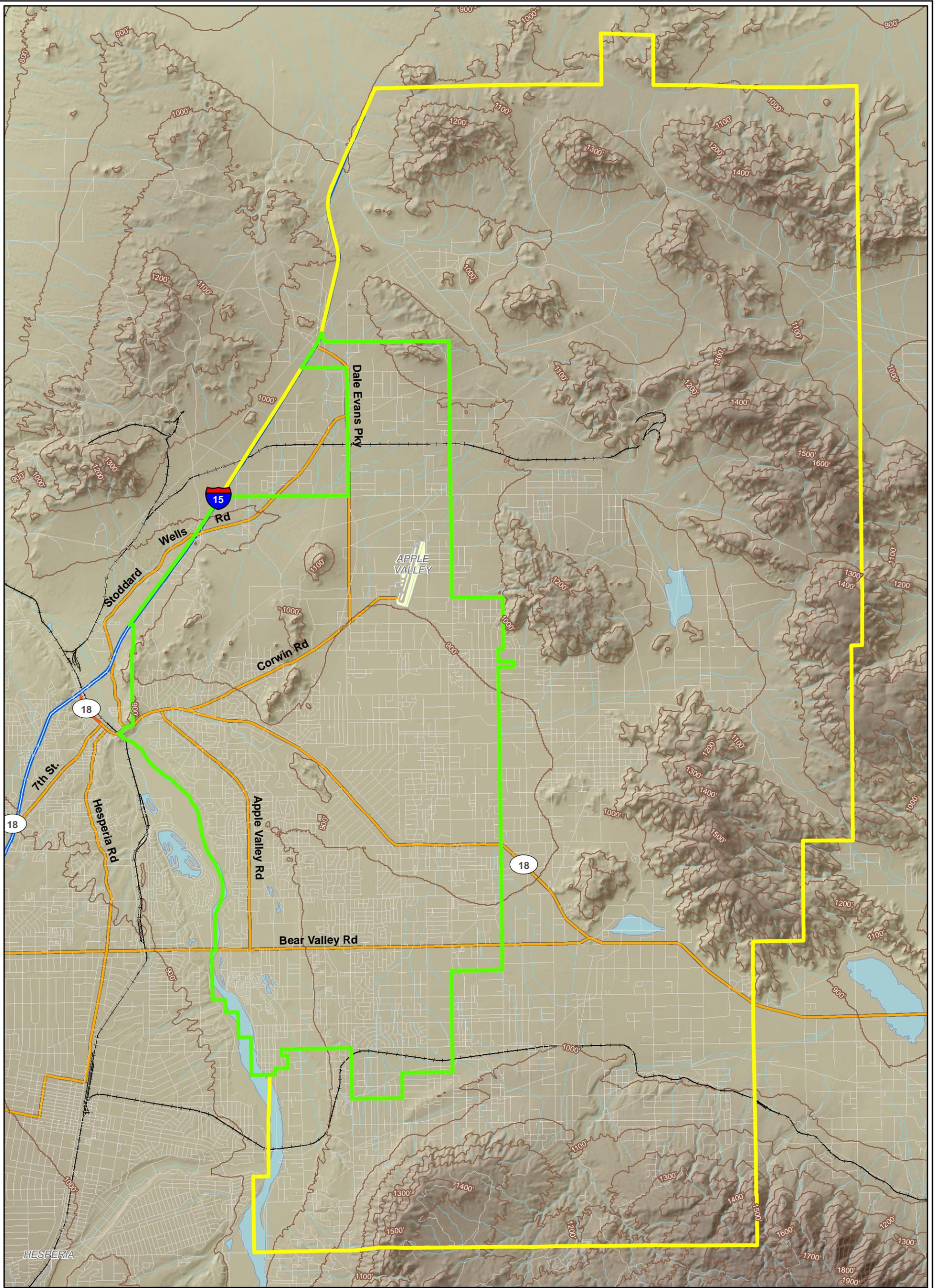
#### Invertebrates

San Emidio Blue Butterfly (*San emigidonis*)

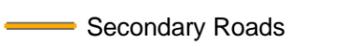
#### Plants

Barstow Woolly Sunflower (*Eriophyllum mohavense*)  
Booth's Evening Primrose (*Camissonia boothii* ssp. *desertorum*)  
Desert Cymopterus (*Cymopterus deserticola*)  
Mojave Monkey Flower (*Mimulus mohavensis*)  
Mojave Tarplant (*Hemizonia mohavensis*)  
Red Rock Poppy (*Eschscholzia minutiflora* spp. *twisselmannii*)  
Red Rock Tarplant (*Hemizonia arida*)  
Southern Skullcap (*Scutellaria bolanderi* ssp. *austromontana*)

\*The above species lists are subject to change due to results of biological studies and consultations with State and Federal wildlife agencies.

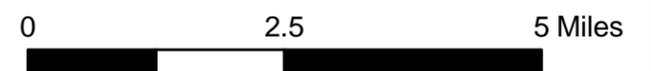


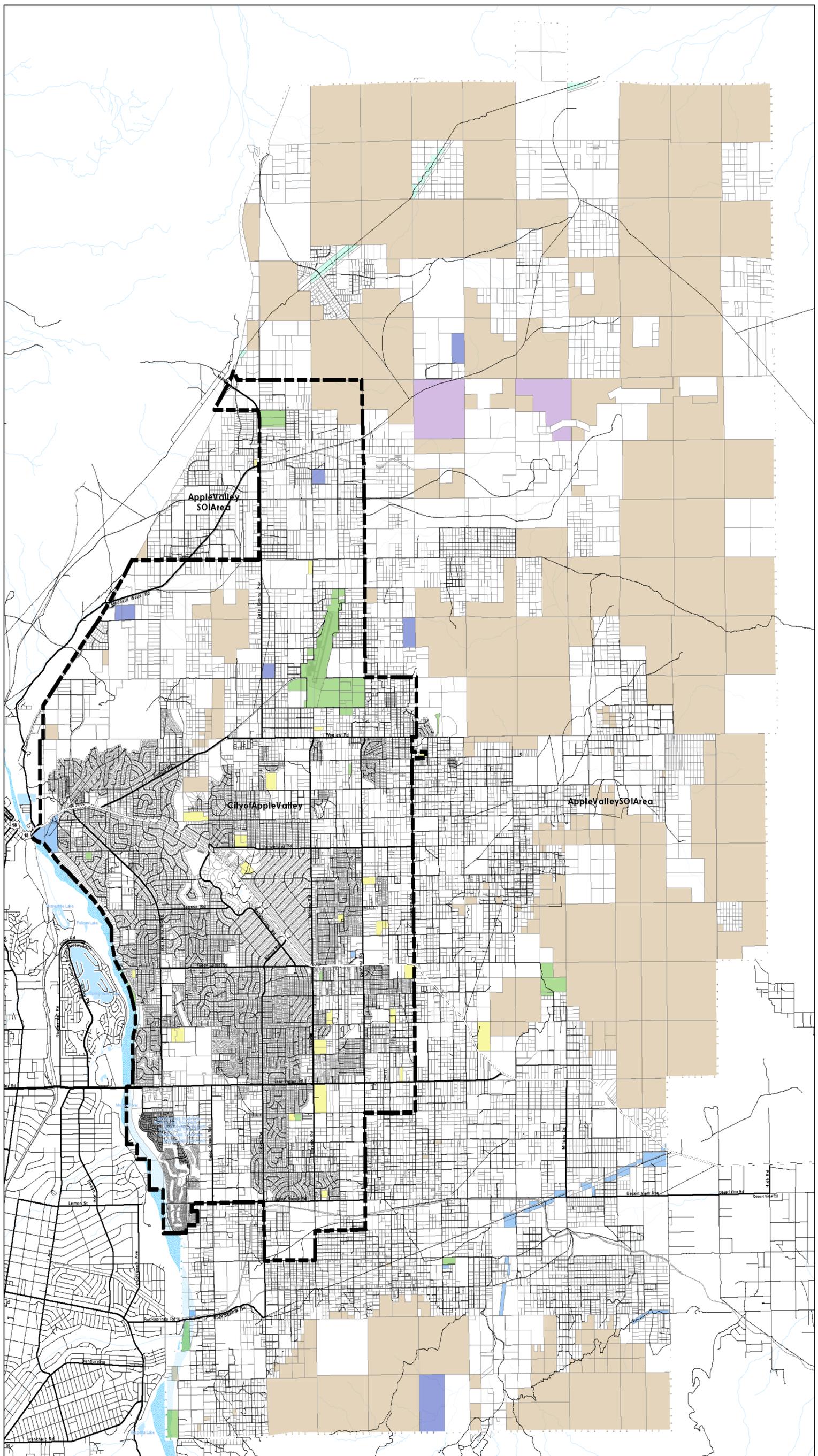
**Legend**

- |                                                                                                                             |                                                                                                            |                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
|  Town of Apple Valley Sphere of Influence | <b>Road Classification</b>                                                                                 |  Contours  |
|  National Forest                          |  Limited Access Freeway |  Railroads |
|  Water                                    |  Highway                |  Rivers    |
|  Airport Area                             |  Secondary Roads        |                                                                                                |
|                                                                                                                             |  Local Roads            |                                                                                                |

**Relief Map**

**Town of Apple Valley  
Multi-Species  
Habitat Conservation Plan (MSHCP)**





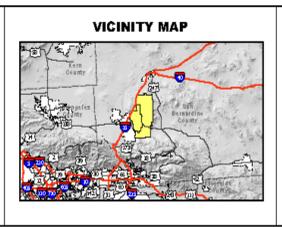
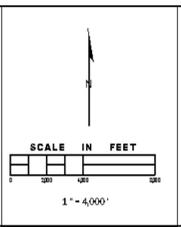
Job Name: R/HCP - Public/Private Land  
 Project Number: 2008-116  
 Map Scale: 1"=4000'  
 Production Date: 2008-12-01  
 Proj. Date: 2008-12-01

**NOTES**

Gross Project Acreage: +/-125,000 Ac.  
 Project Boundary: SANBAG GIS-2008  
 Parcel Boundaries from SANBAG GIS - Oct. 14, 2008. Ownership information from DataQuick Oct 2008.

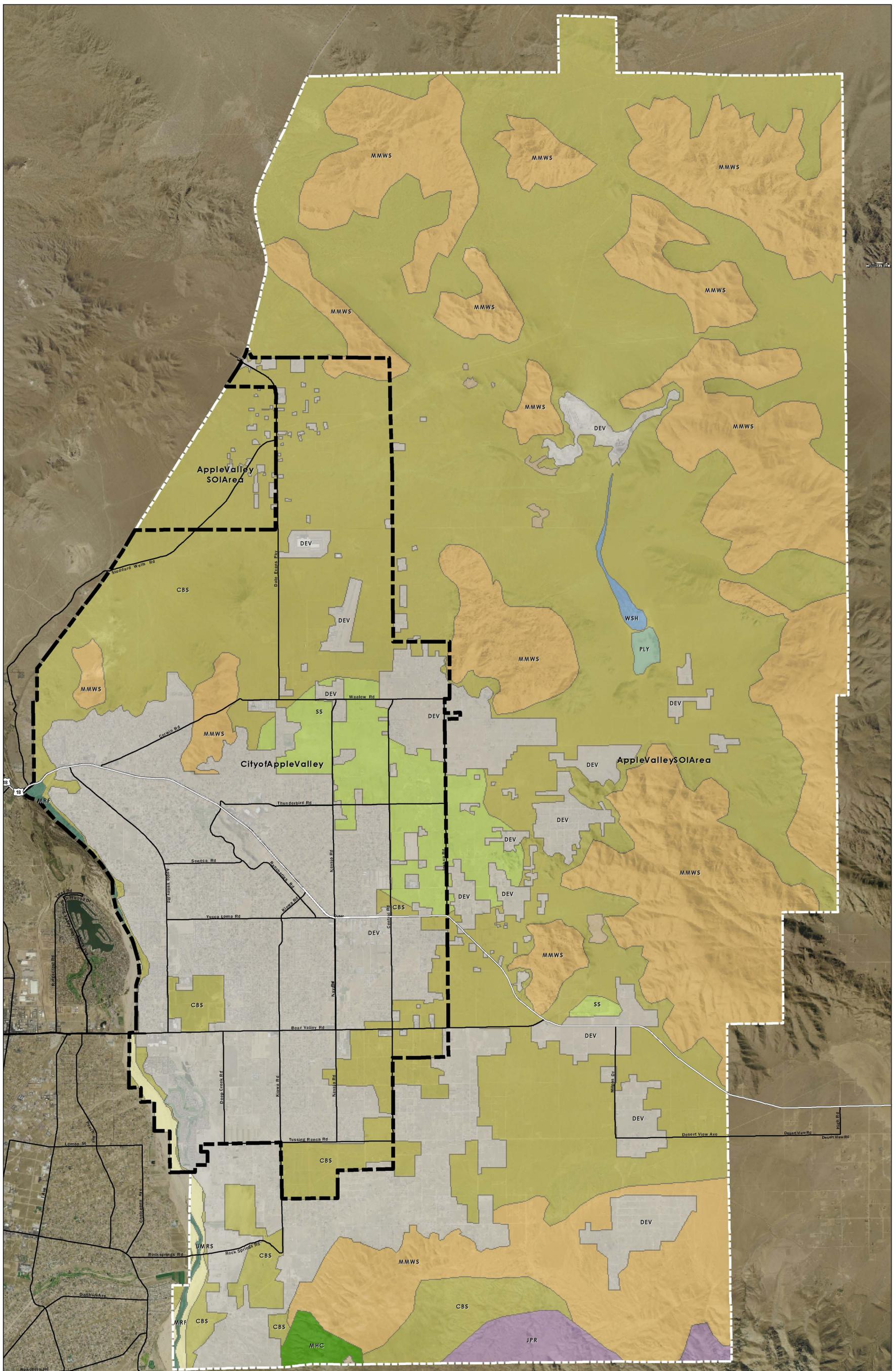
**Parcel Ownership<sup>1</sup>**

Federal	Other Jurisdiction
State	Power, Water and Parks
County	Non-Gov't Land
Town	Parcel <5 Ac.
Unspecified Gov't Land	



**APPLE VALLEY HCP**

Public vs. Private Land Ownership



Job Name: AV HCP - Vegetation Map  
 Project Number: 2008.016  
 Map Scale: 1"=400'  
 Production Date: 08/01/08  
 Plot Date: 2008.0.01

**NOTES**

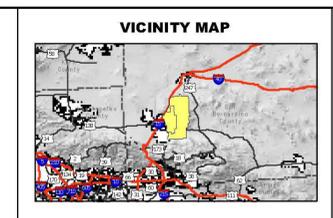
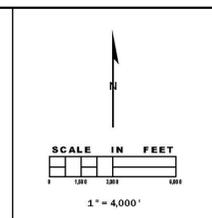
Gross Project Acreage: +/-325,000 Ac.

Project Boundary: SANBAG GIS-2008

\*Vegetation Data Derived from Aerial Interpretation of Digital Globe 2008 Imagery and Existing Apple Valley GIS Data

\*Vegetation Type:

CBS - Creosote Bush Scrub	SS - Saltbush Scrub
JPR - Juniper	UMWS - Unvegetated Mojave River/Sand
MHC - Montane Hardwood-Conifer	WSH - Wash
MMWS - Mojave Mixed Woody Scrub	DSTB - Disturbed
MRF - Mojave Riparian Forest	DEV - Developed Area
PLY - Playa	



**APPLE VALLEY HCP**

Public vs. Private Land Ownership