

Final Initial Study and Mitigated Negative Declaration
for the Relocation of the Big Bear Alpine Zoo in the
City of Big Bear Lake, San Bernardino County, California
(SCH 2013031010)



Submitted to:

Prepared for:
Big Bear Valley Recreation and Park District
and
County of San Bernardino
Special Districts Department
157 West 5th Street, Second Floor
San Bernardino, CA 92415-0450
Contact: Carrie Hyke, District Planner



Prepared by:

The Altum Group
73-255 El Paseo Drive, Suite 15
Palm Desert, CA 92260
Contact: Nancy Ferguson,
Environmental Planning Manager



March 2014

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Appendix F.3 Moonridge Animal Park Policies and Procedures, General Emergency and Evacuation Procedures

1.0 INTRODUCTION

A. PURPOSE

This Final Initial Study and Mitigated Negative Declaration (IS/MND) was prepared for the Big Bear Alpine Zoo relocation and expansion project. Prior to approving the project, the Board of Supervisors (Board) as the lead agency must consider the proposed MND together with any comments received during the public review process. The Board may adopt the proposed MND only if it finds on the basis of the whole record before it (including the Initial Study and any comments received), that there is no substantial evidence that the project will have a significant effect on the environment and that the MND reflects the lead agency's independent judgment and analysis.

The County prepared this Final IS/MND in accordance with the California Environmental Quality Act (CEQA; California Public Resources Code Section 21000, *et seq.*) and the "Guidelines for the Implementation of the California Environmental Quality Act" (California Code of Regulations, Title 14, Section 15000, *et seq.*, State *CEQA Guidelines*).

B. ORGANIZATION OF FINAL IS/MND

The Final document includes the following information:

- Introduction to the Final IS/MND
- A list of persons, organizations, and public agencies commenting on the Draft Initial Study/Notice of Intent to Adopt a Mitigated Negative Declaration (IS/MND);
- Comments received on the Draft IS/MND and responses;
- Errata sheet explaining minor editorial revisions to the IS/MND in response to comments; and
- Appendices inadvertently left out of the circulated IS/MND.

The Final and Draft documents are available for review at the following location:

County of San Bernardino
Special Districts Department
157 West 5th Street, Second Floor

Big Bear Branch Library
41930 Garstin Drive
Big Bear Lake

Big Bear Valley Recreation and Parks District
41220 Park Avenue
Big Bear Lake

In addition, the Final document is available at the Special District Departments website: www.specialdistricts.org, by highlighting "Divisions", "Administration", then "engineering" and then clicking on the "Notices" link. The document can also be viewed at: www.BigBearZoo.com.

2.0 RESPONSES TO COMMENTS

This section includes the comment letters received on the Draft Initial Study and Notice of Intent to Adopt a Mitigated Negative Declaration (MND). Each comment letter is labeled with a unique number and comments within each letter are numbered consecutively. For example, the letter from the State Clearinghouse is labeled Letter 1 and the one comment in this letter is labeled 1-1.

Consistent with CEQA Guidelines 15074(b), prior to approving a project, the Board of Supervisors (the decision-making body of the lead agency) must consider the proposed MND together with any comments received during the public review period. The Board must adopt the proposed MND only if it finds on the basis of the whole record before it (including the initial study and any comments received), that there is no substantial evidence that the project will have a significant effect on the environment and that the MND reflects the lead agency's independent judgment and analysis. The most comprehensive way for the Board to consider the comments received on the Big Bear Alpine Zoo IS/MND is to prepare a formal set of responses to the letters received. Therefore, this chapter provides the annotated letters and responses to each comment for the Board's consideration.

The Special Districts Department received a total of 15 comment letters from state and local agencies, as well as letters from local residents, before the comment deadline of April 10, 2013. The following list provides the name of the commentor along with his/her affiliation, the date the letter was received and the page number where the comment letter begins.

Letter No.	Comment Letter Received From	Date Received	Page No.
1	Office of Planning and Research - State Clearinghouse	April 3, 2013	2-3
2	Native American Heritage Commission	March 4, 2013	2-6
3	California Department of Toxic Substances Control	March 14, 2013	2-9
4	California Department of Fish and Wildlife	April 10, 2013	2-16
5	South Coast Air Quality Management District	April 12, 2013	2-38
6	Santa Ana Regional Water Quality Control Board	April 22, 2013	2-43
7	Big Bear Municipal Water District	March 18, 2013	2-52

8	City of Big Bear Lake	April 9, 2013	2-56
9	Resident – Ari Gold	April 9, 2013	2-70
10	Resident – Celso Morrison	April 10, 2013	2-78
11	Resident – Betty Cheang	No date	2-85
12	Resident - Richard Oakes. The same letter was also received from Michael Barnett, William and Lois Berger, and Patricia and Bill King.	April 8, 2013	2-89
13	Residents – Anthony and Carol Alba	March 10, 2013	2-96
14	Residents – Roger Taff and Donna Genett	March 8, 2013	2-102
15	Residents – Alan and Donna Leutloff	April 11, 2013	2-105
16	Caltrans District 8 – Daniel Kopulsky	May 10, 2013	2-111
17	Big Bear Group Sierra Club - Ed Wallace, Chair	May 22, 2013	2-113
18	San Bernardino Valley Audubon Society	September 20, 2013	2-117
19	Friends of Fawnskin and Center for Biological Diversity	September 13, 2013	2-120



EDMUND G. BROWN JR.
GOVERNOR

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



KEN ALEX
DIRECTOR

April 3, 2013

Carrie Hyke
San Bernardino County, Special Districts Dept.
157 West Fifth Street
San Bernardino, CA 92415-0450

Subject: Big Bear Alpine Zoo Relocation Project
SCH#: 2013031010

Dear Carrie Hyke:

The State Clearinghouse submitted the above named Mitigated Negative Declaration 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 April 2, 2013, 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,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

LETTER 1

SCH# 2013031010
Project Title Big Bear Alpine Zoo Relocation Project
Lead Agency San Bernardino County

Type MND Mitigated Negative Declaration

Description The Big Bear Valley Recreation and Park District, administered by the County of San Bernardino Special Districts Department, proposes to relocate the Big Bear Alpine Zoo to 10.4 acres at the southeast corner of Moonridge Road and Club View Drive. The Big Bear Alpine Zoo provides for the care, rehabilitation, and when possible, the release of injured, orphaned, or confiscated animals back into the wild. Animals come from the general public, other zoos, and State, County or federal agencies. There are approximately 150 animals representing 85 different species of alpine and sub-alpine species native to CA presently living at the facility. The Zoo is currently located on a 2.5-acre site on Goldmine Drive in the City of Big Bear Lake. The proposed location will be approximately 3/4 mile north of the current location.

Lead Agency Contact

Name Carrie Hyke
Agency San Bernardino County, Special Districts Dept.
Phone 909 387 5530 **Fax**
email
Address 157 West Fifth Street
City San Bernardino **State** CA **Zip** 92415-0450

Project Location

County San Bernardino
City Big Bear Lake
Region
Lat / Long 34° 14' 18.17" N / 116° 52' 1.55" W
Cross Streets South of Moonridge Drive, East side of Club View Road
Parcel No. 2328-472-01, 02, 03
Township 2N **Range** 1E **Section** 22 **Base** SBB&M

Proximity to:

Highways Hwy 18, 38
Airports Big Bear
Railways
Waterways Rathbun Creek, Big Bear Lake
Schools N. Shre ES, BB MS
Land Use City of Big Bear Lake

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Noise; Public Services; Sewer Capacity; Soil Erosion/Compaction/Grading; Traffic/Circulation; Water Quality; Water Supply; Wetland/Riparian; Landuse

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Wildlife, Region 6; Department of Parks and Recreation; Department of Water Resources; Caltrans, Division of Aeronautics; Office of Emergency Management Agency, California; Caltrans, District 8; Regional Water Quality Control Board, Region 8; Department of Toxic Substances Control; Native American Heritage Commission; State Lands Commission

Date Received 03/04/2013 **Start of Review** 03/04/2013 **End of Review** 04/02/2013

Letter 1 State Clearinghouse, April 3, 2013

Letter summarizes the SCH policy for disseminating the Initial Study to State Agencies and that the County has complied with the State Clearinghouse review requirements. No response is necessary.

LETTER 2

STATE OF CALIFORNIA

Edmund G. Brown, Jr. Governor

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
 SACRAMENTO, CA 95814
 (916) 653-6251
 Fax (916) 657-5390
 www.nahc.ca.gov
 e-mail: ds_nahc@pacbell.net



March 4, 2013

Ms. Carrie Hyke, District Planner
County of San Bernardino Special Districts Department
 157 West 5th Street, 2nd Floor
 San Bernardino, CA 92415-0450

Sent by FAX to 909-387-5542
 No. of Pages: 2

Re: Request for a Sacred Lands File Search and Native American Contacts List for the "**Big Bear Alpine Zoo Relocation Project;**" located in the City of Big Bear Lake; San Bernardino County, California

Dear Ms. Hyke:

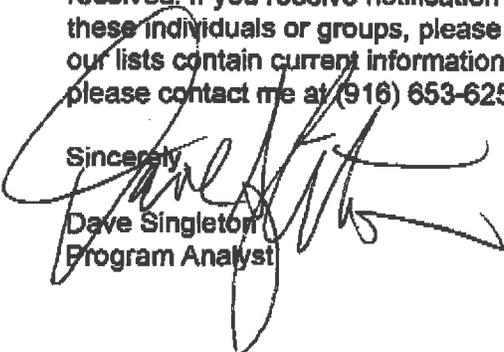
A record search of the NAHC Sacred Lands File failed to indicate the presence of Native American cultural resources in the immediate project area, the Area of Potential Effect (APE) as defined above. Other sources of cultural resources should also be contacted regarding known and recorded sites. A Native American tribe or individual may be the only source of the presence of traditional cultural places.

In the 1985 Appellate Court decision (170 Cal App 3rd 604), the court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources impacted by proposed projects, including archaeological places of religious significance to Native Americans, and to Native American burial sites.

Attached is the list of Native American tribes, individuals/organizations who may have knowledge of cultural resources in the project area. As a part of consultation, the NAHC recommends that local governments contact the tribal governments to determine if any cultural places are located within the area(s) affected by the proposed action.

If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received. If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-6251.

Sincerely,


 Dave Singleton
 Program Analyst

2-1

**Native American Contacts
San Bernardino County
March 5, 2013**

LETTER 2

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Road Cahuilla
Banning , CA 92220 Serrano
(951) 849-8807
(951) 755-5200
(951) 922-8146 Fax

San Manuel Band of Mission Indians
Celia Rodriguez, Chairwoman
26569 Community Center Drive Serrano
Highland , CA 92346
(909) 864-8933
(909) 864-3724 - FAX
(909) 864-3370 Fax

Serrano Nation of Mission Indians
Goldie Walker, Chairwoman
P.O. Box 343 Serrano
Patton , CA 92369
(909) 528-9027 or
(909) 528-9032

Morongo Band of Mission Indians
Michael Contreras, Cultural Heritage Prog.
12700 Pumarra Road Cahuilla
Banning , CA 92220 Serrano
(951) 201-1866 - cell
mcontreras@morongo-nsn.
gov
(951) 922-0105 Fax

Ernest H. Siva
Morongo Band of Mission Indians Tribal Elder
9570 Mias Canyon Road Serrano
Banning , CA 92220 Cahuilla
siva@dishmail.net
(951) 849-4676

San Manuel Band of Mission Indians
Daniel McCarthy, M.S., Director-CRM Dept.
26569 Community Center Drive Serrano
Highland , CA 92346
(909) 864-8933, Ext 3248
dmccarthy@sanmanuel-nsn.
gov
(909) 862-5152 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Big Bear Alpine Zoo Relocation Project; located in the City of Big Bear Lake; San Bernardino County, California for which a Sacred Lands File search and Native American Contacts list were requested.

Letter 2 Native American Heritage Commission, March 5, 2013

Comment 2-1 NAHC conducted a Sacred Lands File search and did not find evidence of presence of Native American cultural resources. NAHC provided a list of tribes and recommended that tribes be contacted for more information.

Response: Thank you for commenting on the Big Bear Alpine Zoo Relocation MND. As part of the Phase I Cultural Resources Study prepared for the MND, a Sacred Lands File Search was completed and letters were sent to registered interested Native American groups in the project area. No responses were received from these groups.



Matthew Rodriguez
Secretary for
Environmental Protection



Department of Toxic Substances Control

Deborah O. Raphael, Director
5796 Corporate Avenue
Cypress, California 90630



Edmund G. Brown Jr.
Governor

March 14, 2013

Ms. Carrie Hyke
County of San Bernardino, Special Districts Department
157 West Fifth Street
San Bernardino, California 92415-0450

**DRAFT INITIAL STUDY AND NOTICE OF INTENT TO ADOPT A MITIGATED
NEGATIVE DECLARATION FOR THE RELOCATION OF THE BIG BEAR ALPINE
ZOO IN THE CITY OF BIG BEAR LAKE, SAN BERNARDINO COUNTY, CALIFORNIA
SCH # 2013031010**

Dear Ms. Hyke:

The Department of Toxic Substances Control (DTSC) has received your submitted Draft Initial Study and Notice of Intent to Adopt a Mitigated Negative Declaration for the Relocation of the Big Bear Alpine Zoo (BBAZ) in the City of Big Bear Lake, San Bernardino County, California.

3-1

The following project description is stated in your document:

"The Project proposes to relocate the Big Bear Alpine Zoo to a new 10.4-acre site approximately $\frac{3}{4}$ mile to the north at the intersection of Moonridge Road and Club View Drive. This site is bounded on the south by the golf course, and on the north, east and west by residential neighborhoods. Further north on Moonridge Road are commercial land uses. The proposed project site is located approximately $\frac{3}{4}$ mile north of State Highway 18, the main road into Big Bear Lake, and 1.5 miles from the lake.

3-2

The project site is designated by the City of Big Bear Lake as Commercial Visitor (CV) with a swath of Open Space (OS) associated with Rathbun Creek through the center of the site. Surrounding land uses include OS to the south (golf course) which runs north and south, CV and Multifamily Residential (MFR) to the northwest, and Single Family Residential (SFR) on the west and east of the site.

The relocation of the BBAZ to this site will allow Big Bear Valley Recreation and Park District to expand the facility to add new exhibits, botanical garden and visitor serving retail and concession uses. The Master Plan calls for 35 parking spaces on site (5 handicapped spaces) to be located along Club View Drive."

Based on the review of the submitted document DTSC has the following comments:

- 1) The MND should evaluate whether conditions within the Project area may pose a threat to human health or the environment. Following are the databases of some of the regulatory agencies:
 - National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA).
 - EnviroStor (formerly CalSites): A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below).
 - Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by U.S. EPA.
 - Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA.
 - Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.
 - GeoTracker: A List that is maintained by Regional Water Quality Control Boards.
 - Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks.
 - The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS).
- 2) The MND should identify the mechanism to initiate any required investigation and/or remediation for any site within the proposed Project area that may be contaminated, and the government agency to provide appropriate regulatory oversight. If necessary, DTSC would require an oversight agreement in order to review such documents.
- 3) Any environmental investigations, sampling and/or remediation for a site should be conducted under a Work Plan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. The findings of any investigations, including any Phase I or II Environmental Site Assessment Investigations should be summarized in the document. All sampling results in which hazardous substances were found above regulatory

3-3

3-4

3-5

Ms. Carrie Hyke
 March 14, 2013
 Page 3

- standards should be clearly summarized in a table. All closure, certification or remediation approval reports by regulatory agencies should be included in the Mitigated Negative Declaration. 3-5
 Con't
- 4) If buildings, other structures, asphalt or concrete-paved surface areas are being planned to be demolished, an investigation should also be conducted for the presence of other hazardous chemicals, mercury, and asbestos containing materials (ACMs). If other hazardous chemicals, lead-based paints (LPB) or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies. 3-6
- 5) Project construction may require soil excavation or filling in certain areas. Sampling may be required. If soil is contaminated, it must be properly disposed and not simply placed in another location onsite. Land Disposal Restrictions (LDRs) may be applicable to such soils. Also, if the project proposes to import soil to backfill the areas excavated, sampling should be conducted to ensure that the imported soil is free of contamination. 3-7
- 6) If the project area was used for agricultural, livestock or related activities, onsite soils and groundwater might contain pesticides, agricultural chemical, organic waste or other related residue. Proper investigation, and remedial actions, if necessary, should be conducted under the oversight of and approved by a government agency at the site prior to construction of the project. 3-8
- 7) If weed abatement occurred, onsite soils may contain herbicide residue. If so, proper investigation and remedial actions, if necessary, should be conducted at the site prior to construction of the project. 3-9
- 8) Human health and the environment of sensitive receptors should be protected during the field activities. If necessary, a health risk assessment overseen and approved by the appropriate government agency should be conducted by a qualified health risk assessor to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment. 3-10
- 9) If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated, the facility should also obtain a United States Environmental Protection Agency Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local 3-11

Ms. Carrie Hyke
 March 14, 2013
 Page 4

Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA.

3-11
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10) DTSC can provide 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, or contact Ms. Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489.

3-12

If you have any questions regarding this letter, please contact Ms. Sue Hakim, Project Manager, at soad.hakim@dtsc.ca.gov, or by phone at (714) 484-5381.

Sincerely,



Sue Hakim
 Project Manager
 Brownfields and Environmental Restoration Program

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

CEQA Tracking Center
 Department of Toxic Substances Control
 Office of Environmental Planning and Analysis
 P.O. Box 806
 Sacramento, California 95812
 Attn: Nancy Ritter
nritter@dtsc.ca.gov

CEQA # 3725

Letter 3 Department of Toxic Substances Control, March 14, 2013

Comment 3-1 DTSC acknowledged receipt of a copy of the Initial Study/Notice of Intent.

Response: Thank you for providing comments on the Big Bear Alpine Zoo Relocation MND.

Comment 3-2 DTSC summarized the BBAZ Project Description.

Response: The description of the project is accurate.

Comment 3-3 Comment states that the Initial Study should evaluate conditions within the project area that may pose a threat to human health and the environment and listed the databases where information could be found.

Response: The EnviroStor database was checked and neither the existing zoo site nor the proposed Big Bear Alpine Zoo site were found to be located on any site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (see Initial Study Section VIII.d.). Additionally, as part of the Phase I Environmental Site Assessment (ESA) for the proposed project site, various federal and state databases and local records (including those listed in Comment 3-3) were searched and no environmental concerns or issues, which would be considered an impairment to the development of the proposed project site, were found (Section 6.0 of the Phase I ESA – Appendix F).

Comment 3-4 Comment states that the MND should identify the mechanism to initiate any required investigation and/or remediation of any contamination on either the existing site or the new site.

Response: Because the proposed project site is not on any hazardous materials sites, and no evidence of contamination was identified in the Phase I ESA conducted for the site, nor further evaluation of the site relocation will be necessary. However, as discussed in Section VIII – Hazards and Hazardous Materials, on page 102, the existing facility has been in operation since the late 1950s and depending on the age of the buildings, some may contain hazardous materials including asbestos containing materials and lead based paint. Therefore, Mitigation Measure HAZ-1 must be implemented prior to commencement of demolition of the buildings at the existing facility.

Comment 3-5 Comment states that if any environmental investigations are required they should be conducted under a Work Plan approved by the agency with oversight of hazardous substance cleanup.

Response: A Phase I ESA was conducted for the proposed project and found no significant environmental concerns or impairments at the project site. Because

no significant environmental concerns were present at the proposed BBAZ site, no sampling was recommended or performed.

For the existing zoo facilities, please see response to comment 3-4 regarding an assessment of the site for building materials that may contain asbestos and/or lead-based paint or other hazardous materials. Mitigation Measure HAZ-1 will be revised to clarify that a work plan for the site assessment will be reviewed and approved by the San Bernardino County Fire Department, Hazardous Materials Division, the local Certified Unified Program Agency (CUPA).

HAZ-1 Prior to commencement of demolition of the existing zoo facility, a work plan will be prepared to an assessment of the site for building materials that may contain asbestos such as flooring or ceiling tiles, cement wallboard or siding, cement pipes, fireproofing materials, etc must be completed. If the findings of this assessment are positive and asbestos-containing materials are found to have been used in construction of the existing facility, remediation of any materials found on-site must be completed prior to the start of demolition of those buildings that may have asbestos-containing materials. Materials shall be removed by a licensed company and taken to an approved landfill for disposal. The work plan will be reviewed and approved by the San Bernardino County Fire Department, Hazardous Materials Division, the local Certified Unified Program Agency (CUPA).

Comment 3-6 If buildings or other structures are proposed for demolition, an investigation for the presence of hazardous chemicals and lead-base paint, or asbestos containing materials should be conducted and if found should be remediated in compliance with state regulations.

Response: Please see responses to comments 3-4 and 3-5.

Comment 3-7 Comment states that cut and fill activities during site preparation and grading may result in the exposure of contaminated soils that must be properly disposed. Any imported soil must be tested for contamination prior to import.

Response: The proposed project site has not been previously developed except for a residential lot along Club View Drive. The structures have been removed. The Phase I ESA conducted for the site included this location. No discoloration of soils was evident during the visual site inspection performed as part of the Phase I Environmental Site Assessment. Therefore, it is unlikely that any soil contamination will be discovered. However, during site preparation and grading, if the contractor uncovers any evidence of soil contamination such as discoloration, sampling of that area would be required. This will be noted on the grading plan and project specifications.

Comment 3-8 Comment states that if the site was used for agriculture or related activities, on-site soils and groundwater, proper investigation and remedial action should be conducted under oversight by a government agency.

Response: According to historic aerial photographs included in the Phase I ESA, the project site has not been used for agricultural use.

Comment 3-9 Comment states that if any weed abatement done on-site may contain herbicide residue investigation and remediation may be required prior to construction activity.

Response: Due to the size of the site and location within the City of Big Bear Lake near a residential neighborhood, previous site abatement activities were likely done by mechanical means such as mowing rather than large-scale herbicide application.

Comment 3-10 Comment states that a health risk assessment should be conducted if there are, have been or will be any releases of hazardous materials that pose a risk to human health or the environment.

Response: See responses to comments 3-4 and 3-5.

Comment 3-11 Comment states that any hazardous waste that are or will be generated by the proposed operations must be managed in accordance with applicable State regulations and obtain a USEPA ID number, and could also require authorization from the local Certified Unified Program Agency (CUPA).

Response: The proposed Big Bear Alpine Zoo would not typically generate hazardous waste such that a USEPA ID number will be required, however, during the preparation for demolition of the existing facilities, a work plan for the removal of potentially hazardous building materials will be submitted to the San Bernardino County Fire Department, Hazardous Materials Division, the local CUPA.

Also see response to comment 3-5 related to the preparation of a work plan to be reviewed and approved by the CUPA should hazardous materials be discovered at the existing zoo.

Comment 3-12 Comment states that DTSC can provide cleanup oversight for government agencies that are not responsible parties or for private parties.

Response: Comment is noted and the information provided will be considered, if needed.

From: Jeff Brandt [<mailto:Jeff.Brandt@wildlife.ca.gov>]
Sent: Wednesday, April 10, 2013 6:09 PM
To: Hyke, Carrie
Cc: Jeff Brandt; Kim Freeburn
Subject: Initial Study/Mitigated Negative Declaration, Big Bear Alpine Zoo Relocation Project, SCH # 2013031010

Dear Ms. Hyke:

The Department of Fish and Wildlife (Department) appreciates the opportunity to comment on the Initial Study/Mitigated Negative Declaration (MND) for the Big Bear Alpine Zoo Relocation Project (Project) [State Clearinghouse No. 2013031010]. The Department is responding to the IS/MND as a Trustee Agency for fish and wildlife resources (California Fish and Game Code Sections 711.7 and 1802, and the California Environmental Quality Act [CEQA] Guidelines Section 15386), and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines Section 15381), such as the issuance of a Lake or Streambed Alteration Agreement (California Fish and Game Code Sections 1600 *et seq.*) and/or a California Endangered Species Act (CESA) Permit for Incidental Take of Endangered, Threatened, and/or Candidate species (California Fish and Game Code Sections 2080 and 2080.1).

4-1

Project Description

The Project is located on a 10.4-acre parcel at the southeast corner of Moonridge Road and Club View Drive within the City of Big Bear Lake on Assessor Parcel Numbers 2328-472-01, 02 and 03. The Big Bear Valley Recreation and Park District (BBVRPD), administered by the County of San Bernardino Special Districts Department, proposes to relocate the Big Bear Alpine Zoo (BBAZ) onto the 10.4-acre parcel mentioned above. The relocation will allow the BBAZ to expand their facility to facilitate the addition of new exhibits, botanical garden and retail and concessions amenities. The Project will also include parking areas and water treatment basins.

4-2

Biological Resources and Impacts

The CEQA document should contain sufficient, specific, and current biological information on the existing habitat and species at the Project site; measures to minimize and avoid sensitive biological resources; and mitigation measures to offset the loss of native flora and fauna and State waters. The CEQA document should not defer impact analysis and mitigation measures to future regulatory discretionary actions, such as a Lake or Streambed Alteration Agreement.

4-3

If sensitive species have the potential to occur on the Project site species specific surveys should be conducted using methods approved by the Department or assume the presence of the species throughout the project site. Surveys should be conducted with one year of submission of the CEQA document. To assist with review, an accompanying map showing the areas of impact should be included in the subsequent CEQA document. Additional maps detailing the location of sensitive species should also be included in the subsequent CEQA document.

4-4

The MND included two supporting biological documents: Moonridge Animal Park Relocation Project: General Biological Resource Assessment, Rare Plant Survey and Focused Southwestern Willow Flycatcher Survey (Tanner, 2011); and Report of a Focused Survey for Special-Status Species at the 10.3-acre Moonridge Animal Park Relocation Project Site, City of

4-5

Big Bear Lake, San Bernardino County, California (Athena Group, 2012). After reviewing the documents, it is unclear whether the rare plant surveys were conducted in accordance with Department protocol. The Department recommends that assessments for rare plants and rare plant natural communities follow the Department's 2009 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. The guidance document is available here:

http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/protocols_for_surveying_and_evaluating_impacts.pdf

4-5
Con't

The Project proposes construction of facilities directly adjacent to and crossing Rathbun Creek. To do so, the Project will, *"import approximately 25,000 cubic yards of fill material to raise the site out of the flood plain of Rathbun Creek."* The placement of fill will divert and obstruct the flow of Rathbun Creek, and impact associated habitats including riparian and hydrophytic vegetation dispersed throughout the site. The placement, functions, and maintenance of the water quality treatment basins is largely unaddressed, and the Department was unable to preclude impacts to water as a result of the project.

4-6

Based on previous site visits and review of project proposals for development at the site, it is clear the MND both underestimates the Department jurisdictional habitats on site and underestimates the impacts associated with the proposed development.

4-7

The Project proposes to perform periodic routine maintenance within Rathbun Creek, consisting of trimming brush and clearing debris from the creek. The MND considers these ongoing routine maintenance activities as temporary impacts and does not propose any mitigation measures. The Department considers ongoing maintenance activities a permanent impact and recommends avoidance of the streambed and associated floodplain to minimize the need for maintenance.

4-8

As prepared, the MND fails to identify, analyze, and disclose the direct and indirect effects of the Project on Rathbun Creek, adjacent habitats, riparian and hydrophytic vegetation, and associated species, and as such, the Department is unable to fulfill its obligations as a Trustee and Responsible Agency for fish and wildlife resources.

4-9

Lake and Streambed Alteration Program

A Notification of Lake or Streambed Alteration is required by the Department, should the site contain jurisdictional waters. The Department is responsible for assessing and evaluating impacts to jurisdictional waters; typically accomplished through reviewing jurisdictional delineation (JD) reports, supporting information, and conducting site visits. Although a JD was referenced in preparation of the Biological Resources section of the MND, the JD was not included in the MND.

4-10

Although a JD was not included in the MND, the Department reviewed the Biological Resources section, including Figure 9 Jurisdictional Impacts - Big Bear Alpine Zoo Initial Study, and the Hydrology and Water Quality section of the MND. The Department disagrees with the findings presented in Figure 9 and the Jurisdictional Impacts to Rathbun Creek table (Table 14). As stated in the MND, *"approximately 80 percent of the site is located within the flood hazard area of the creek."* This statement and the associated graphics provide insight as to the existing hydrology and stream functions onsite. The streambed and adjacent floodplain areas are essential to the conveyance of flows and storm events and serve to maintain the associated

4-11

meadows. In addition, the presence of riparian and hydrophytic vegetation dispersed throughout the adjacent meadows, and the proximity of the habitats to the stream, supports the assumption the site is largely subject to Departmental jurisdiction. 4-11
Con't

Absent a JD, the Department must exert jurisdiction over the flood plain, stream, meadows, and associated riparian and hydrophytic plants. Likewise, as a CEQA Lead Agency, the County of San Bernardino must identify and disclose these jurisdictional impacts in the MND. The Department recommends a site visit to clarify the jurisdictional areas and associated habitats and develop a JD. Following the site visit, the Department recommends the MND be revised to include a current JD, an updated impact analysis, and avoidance, minimization, and mitigation measures based on the comment above. 4-12

The Department recommends submitting a notification early in the project planning process, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources. To obtain a Lake or Streambed Alteration notification package, please go to <http://www.dfg.ca.gov/habcon/1600/forms.html>. 4-13

The Department opposes the elimination of ephemeral, intermittent, and perennial streams, channels, lakes, and their associated habitats. The Department recommends avoiding stream and riparian habitat to the greatest extent possible. Any unavoidable impacts need to be compensated with the creation and/or restoration of in-kind habitat either on-site or off-site at a minimum 3:1 replacement-to-impact ratio, depending on the impacts and proposed mitigation. Additional mitigation requirements through the Department's Lake and Streambed Alteration Agreement process may be required, depending on the quality of habitat impacted, proposed mitigation, project design, and other factors. 4-14

The following information will be required for the processing of a Notification of Lake or Streambed Alteration and the Department recommends incorporating this information into the CEQA document to avoid subsequent documentation and project delays:

- 1) Delineation of lakes, streams, and associated habitat that will be temporarily and/or permanently impacted by the proposed project (include an estimate of impact to each habitat type);
 - 2) Discussion of avoidance and minimization measures to reduce project impacts; and,
 - 3) Discussion of potential mitigation measures required to reduce the project impacts to a level of insignificance (Please refer to section 15370 of the CEQA guidelines for the definition of mitigation).
- 4-15

In the absence of specific mitigation measures in the CEQA document, the Department believes that it cannot fulfill its obligations as a Trustee and Responsible Agency for fish and wildlife resources. Permit negotiations conducted after and outside of the CEQA process are not CEQA-compliant because they deprive the public and agencies of their right to know what project impacts are and how they are being mitigated (CEQA Section 15002). 4-16

Cumulative Impacts

The regional scarcity of biological resources may increase the cumulative significance of Project activities. Cumulative effects analysis should be developed as described under CEQA Guidelines Section 15130. Please include all potential direct and indirect project related impacts to riparian areas, wetlands, wildlife corridors or wildlife movement areas, aquatic habitats, 4-17

sensitive species and other sensitive habitats, open lands, open space, and adjacent natural habitats in the cumulative effects analysis.

4-17
Con't

Alternatives Analysis

The CEQA document should analyze a range of fully considered and evaluated alternatives to the Project (CEQA Guidelines Section 15126.6). The analysis should include a range of alternatives which avoid or otherwise minimize impacts to sensitive biological resources. The Department considers Rare Natural Communities as threatened habitats, having both local and regional significance. Thus, these communities should be fully avoided and otherwise protected from Project-related impacts. The CEQA document should include an evaluation of specific alternative locations with lower resource sensitivity where appropriate. Off-site compensation for unavoidable impacts through acquisition and protection of high-quality habitat should be addressed.

4-18

Please note that the Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Department studies have shown that these efforts are experimental in nature and largely unsuccessful.

4-19

Department Recommendations

The Department has the following concerns about the Project, and requests that these concerns be addressed in the CEQA document:

1. The CEQA document should include current (completed within the 12 month period prior to circulation of the CEQA document) biological surveys for fauna and flora. The Department recommends that the Lead Agency contact the Department's California Natural Diversity Database (CNDDDB) in Sacramento, (916) 327-5960, to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the California Fish and Game Code. If sensitive species may occur within the project area, species specific surveys, conducted at the appropriate time of year and time of day, should be included with the CEQA document. Acceptable species specific surveys have been developed by the Department, and by the U.S. Fish and Wildlife Service, and are accessible through each agencies websites. The Department recommends that assessments for rare plants and rare plant natural communities follow the Department's 2009 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. The guidance document is available here: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/protocols_for_surveying_and_evaluating_impacts.pdf

4-20

2. The analysis in the CEQA document should satisfy the requirements of the Department's Lake and Streambed Alteration Program and CESA (if deemed necessary).

4-21

3. A CESA ITP must be obtained if the Project has the potential to result in "take" (California Fish and Game Code Section 86 defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") of State-listed CESA species, either through construction or over the life of the Project, and the applicant chooses not to process the Project through the NCCP. CESA ITPs are issued to conserve, protect, enhance, and restore State-listed CESA species and their habitats. The Department encourages early consultation, as significant

4-22

- modification to the proposed project and mitigation measures may be required in order to obtain a CESA ITP. Revisions to the California Fish and Game Code, effective January 1998, require that the Department issue a separate CEQA document for the issuance of a CESA ITP unless the Project CEQA document addresses all Project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA permit. | 4-22
Con't
4. The CEQA document should provide a thorough analysis of direct, indirect, and cumulative impacts and identify specific measures to offset such impacts. | 4-23
5. The CEQA document should analyze a range of fully considered and evaluated alternatives to the Project (CEQA Guidelines Section 15126.6). | 4-24
- In summary, the Department requests that the CEQA document include current information regarding biological resources, a current JD, provide a thorough analysis of cumulative impacts, and provide an alternatives analysis. If you should have any questions pertaining to these comments, please contact Kimberly Freeburn Marquez at (909) 945-3484. | 4-25

Sincerely,

Jeff Brandt
Senior Environmental Scientist

Letter 4 Department of Fish and Wildlife, April 10, 2013

Comment 4-1 CDFW (Department) has defined its authority over the proposed project as both a Trustee Agency for fish and wildlife resources and as a Responsible Agency regarding any discretionary actions related to project implementation.

Response: The District thanks the Department for its comments. The Draft Initial Study and Notice of Intent to Adopt a Mitigated Negative Declaration (IS/NOI) identifies the Department as public agency whose approval may be required (permits, financing approval or participation agreement). Specifically, the District must enter into a Lake or Streambed Alteration Agreement with the Department for any impacts to Rathbun Creek. The District is currently consulting with the Department on this issue. Comment 4-2 This comment provides a summary of the proposed project.

Response: The Department's summary of the proposed relocation and expansion of the zoo is consistent with the District's intent for the project site.

Comment 4-3 This comment summarizes the elements that should be addressed in a CEQA document with regard to sensitive and biological resources.

Response: The District agrees that a CEQA document must contain sufficient, specific and current biological information and has made an effort to provide the Department with the most current information.

As discussed in the IS/NOI, the District had a general biological resources assessment, rare plant survey and focused southwestern willow flycatcher survey conducted on the site with a report prepared in September 2011. Subsequently, in 2012, owing to the age of this report, the District conducted a second rare plant survey, that included an assessment of the upland area of the project site which also produced negative findings, thus providing two years of data for Department review. Due to the timing of the 2012 field work (mid-summer) a second nesting bird survey was not conducted with the understanding that prior to any site disturbance, additional surveys must be conducted during the appropriate time of year. District consultants also confirmed with USFWS staff that the project site was not within the southwestern willow flycatcher critical habitat.

A jurisdictional delineation was also conducted for the project (November 2012) that identified the area where resources agencies including the Department had jurisdiction. The delineation was based on a preliminary grading plan (the most current information available, and as the Department is aware, during the planning process for any site development, the preliminary grading plan is just that, and is followed up with interim and final grading plans as the site plan matures. Thus, the jurisdictional delineation prepared for the project is the District's best guess based on a preliminary plan, and has provided the

mitigation for impacts to riparian habitat based on this plan. Understanding this, the District has requested consultation with the Department to determine the maximum impact to riparian habitat and adjust the proposed mitigation accordingly. As the Department is aware, the most common way to mitigate impacts is avoidance, and it is the District's intent, as grading plans continue to develop, to avoid to the extent feasible impacts to riparian habitat.

Comment 4-4 This comment states that if sensitive species have the potential to occur onsite specific surveys should be conducted using methods approved by CDFW and that maps should be provided showing areas of impact and the location of any sensitive species found during surveys.

Response: Two rare plant surveys were conducted in 2011 and 2012 and the CEQA document was published in March 2013, well within the one year window referred to in this comment. The surveys provide two consecutive years of data for the Department to review and were conducted using standard methods that meet the Department's protocols for surveying and evaluating special status species and natural communities. This information has been summarized from the reports prepared for the project that were provided in the Draft Initial Study in Appendix C, except for the 2012 Jurisdictional Delineation (JD) that was inadvertently left out of the compiled document but was provided to the Department under separate cover. Maps showing the survey areas are provided in each of the reports included in Appendix C and the JD that was provided to the Department under separate cover.

General Biological Resources, Tanner Environmental (2011)

Prior to conducting a biological resources assessment of the project site, biologists consulted available literature to identify special status wildlife which might occupy or forage in the area as well as suitable habitat for those species. These literature sources included the California Natural Diversity Data Base (CNDDB; California Department of Fish and Game 2011) and SBNF's GIS database of modeled habitat, special status as well as general plant and wildlife species locations.

The general biological surveys were conducted by Mr. Richard Tanner and Mr. Tony Lavictoire along the length of Rathbun Creek in the project area, in the adjacent meadow habitat and in the one-half mile buffer. Surveys were conducted on foot along the length of the riparian corridor and along random transects through meadow and scrub habitats. The buffer habitat was surveyed on foot when possible and otherwise by vehicle through residential neighborhoods.

Rare Plant Survey, Tanner Environmental (2011)

After a literature and database review, Mr. Andrew Sanders visited the site on two occasions, July 21 and July 27, 2011. The first visit was devoted entirely to the project site itself, while the second visit was divided between the project site and the surrounding one-half mile buffer.

All parts of the parcel that were passable were walked, including the wooded areas along the creek, though the thickets of willow stems prevented passage in many areas of the riparian habitat. Spacing between survey lines was irregular, but routes passed within approximately 5 meters of all parts of the project site. Where the thickets were impassable, he walked along the outside edges.

In addition to the project site, Mr. Sanders surveyed an approximately one-half mile buffer area by walking and or driving the forest and developed residential area. Because much of this area is owner-occupied private property, access was limited and coverage was much less than 100 percent these areas. All accessible areas were walked on foot and all areas which had the potential to support sensitive species were explored.

Mr. Sanders recorded all plant species encountered as they were found and notes were taken on the vegetation of the site. Upon returning from the field, all the plant species observed were entered into a database, with additional plant specific notes added as appropriate. This complete species list is presented in Appendix 2. Many species were collected and vouchers will be deposited as permanent records in the herbarium at University of California, Riverside.

Southwestern Willow Flycatcher Survey (Tanner Environmental) (2011)

All surveys for the SWWF were conducted by Mr. Jason Berkley (USFWS Permit No. TE009015-3). Methods employed were in conformance with the U.S. Fish and Wildlife Service's *Southwestern Willow Flycatcher Presence/Absence Survey Guidelines*, issued June 1, 2010 (Sogge et al. 2010). Accordingly, five surveys of all riparian habitats located adjacent (one-fourth mile up and downstream) to the project site were conducted within three survey periods. The first survey period occurs between May 15th and May 31st, with the second survey period between June 1st and June 24th, and the third between June 25th and July 17th. All surveys were conducted at least five days apart and began at dawn and ended between 9:00 and 10:00 A.M. Temperatures during surveys ranged between 43 and 76 degrees Fahrenheit. Weather conditions were suitable for surveys, with clear skies and winds at or below Beaufort scale 1.

One permitted field investigator slowly walked the suitable habitat, stopping at appropriate intervals, uttered pishing sounds, and played a tape of recorded SWWF vocalizations. The tape was played for several seconds at each interval, followed by a brief pause to listen for a response. Surveys were conducted on May 23rd, June 10th, June 17th, 28th, and July 17th, 2011. Survey details were provided in the 2011 Tanner Report.

Rare Plan Survey and Habitat Assessment, Athena Group and Glen Lukos Associates (2012)

A site-specific survey program consisted of three components: (1) a literature search focusing on botanical resources and including search of California Native Plant Society (CNPS) California Natural Diversity Database (CNDDDB) databases; (2) preparation of a list of target special-status plant species that could occur within the Project Study Area; and (3) focused surveys for special-status plants. Vegetation mapping was not conducted; rather, the vegetation map from the Tanner Environmental Services report (2011) was used as a reference to assist in preparing the list of target botanical species.

Tony Bomkamp conducted focused surveys for special-status plants on July 3, 2012. Surveys were conducted from 8:30 to 11:30 am, and consisted of walking transects across the Project Site allowing direct visual observation of the entire property. The surveys took into account the guidelines adopted by CNPS and California Department of Fish and Game (CDFG) (Nelson 1984, CNPS 2001). All plant species encountered during the focused surveys were identified and recorded following the guidelines adopted by CNPS and CDFG. Scientific nomenclature and common names used in this report follow and the Jepson Herbarium Interchange.

Jurisdictional Delineation Athena Group and Glen Lukos Associates (2012)

Ms. Erinn Johnson of Athena Group and Mr. Tony Bomkamp of Glen Lukos Associates conducted a field survey of the project site on February 23 and July 3, 2012. The surveys included a determination of USACE and CDFG jurisdiction; excavation of soil pits; and identification of vegetation communities and individual plant species.

USACE non-wetland waters of the United States were determined by identifying the physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris. The presence of USACE wetlands were determined by the presence of three parameters, hydrology, hydrophytic vegetation, and hydric soils. Verification of CDFW jurisdictional streambed and bank consisted of walking the site to confirm the limits of significant surface stream and drainage channels, top of stream banks, and the outer limit of riparian vegetation associated with stream banks.

Comment 4-5 CDFW has asked if the rare plant surveys were conducted in accordance with its 2009 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*, and provided a link to the website where this document may be found.

Response: See response to comment 4-4 above.

Comment 4-6 This comment states that placement of fill will divert and obstruct the flow of Rathbun Creek and that there was not adequate information about the water quality basins included in the Initial Study.

Response: There are two concerns in this comment: 1) that the placement of fill will divert and obstruct the flow of Rathbun Creek; and 2) that the placement, function and maintenance of water quality basins is largely unaddressed.

Placement of Fill in Rathbun Creek

The proposed project includes the placement of imported soil in order to raise the site out of the flood plain of Rathbun Creek. No fill will be placed in Rathbun Creek, therefore, the flow of Rathbun Creek will not be diverted or obstructed through the placement of imported fill. The District recognizes that the Department also defines the proposed bridges as “fill”. As part of the IS/NOI prepared for the project, Appendix C contains a memo that summarizes potential impacts to up to four locations across Rathbun Creek. The conclusion of the memo is that if the bridges are designed so that the footings are developed outside the jurisdiction of the resources agencies, then there would be no impact to the creek. This will be discussed further with the Department during consultation on the Streambed Alteration Agreement and will result in a final design of the bridges that meets the conditions of the Agreement.

The perimeter wall, which is a requirement of the American Zoological Association, and the associated sidewalk along the north side of the site, will be designed at the road grade and will not extend down into the creek bed on the north side and thus will not restrict storm flows in the channel. The fencing at the creek crossing on the south side of the project will be designed to propagate the flow through the site, and will also need to be secured. The exact method for allowing the flow through the wall while maintaining security will be determined in the final design stage of the project and will require consultation with the Department for approval as part of the Streambed Alteration Agreement. The District has concluded that whatever screening or grating is employed will require constant maintenance and inspection to ensure that debris does not obstruct the flow and that any maintenance plan must be part of the Agreement.

Maintenance Activities in Rathbun Creek

According to the Hydrology Study prepared for the proposed BBAZ there is a small increase in the peak flow rate of Rathbun Creek related to project development. The increase is 3, 3, and 1 cfs for the 10-, 25-, and 100-yr, 24-hr design storm events. Therefore, the District is proposing to conduct maintenance activities in Rathbun Creek. This activity would consist of trimming of invasive, low level brush that would impede storm flows (and potentially cause flooding) if left in place, and removal of debris that might be deposited by storm flows but would not include removal of any willows or other trees in the stream channel. Maintenance would be done by a crew using hand tools and no mechanical equipment would be used. Maintenance would be limited to pre- and post-rainy season only. This maintenance would be accomplished outside of the nesting season to avoid any impacts to nesting birds.

Water Quality Basins

The District is aware that both Rathbun Creek and Big Bear Lake are listed as impaired water bodies for various constituents. It is the District's intent to adhere to the TMDL's as noted in the Santa Ana River Basin Plan Amendment (Resolution No. R8-2006-0023) that incorporated a nutrient Total Maximum Daily Load (TMDL) for Big Bear Lake are as follows:

- Total Dissolved Solids 300 mg/l
- Total Inorganic Nitrogen- 0.15 mg/l
- Nitrogen/Nitrates 5.00 mg/l

To ensure that Basin Plan objectives for the lake can be obtained, the District is proposing to separate the animal enclosure wash down flows from storm flows, pre-treat the wash down water, including mechanical screening and nutrient removal, including de-nitrification, and dispose of the treated water in the City sewer system. In addition, as part of the District water quality management planning effort, staff intends to employ BMPs for the capture and control of stormwater and snow melt from impervious surfaces such as sidewalks, rooftops and parking areas by treating the "first flush" stormwater (prior to entering the water quality basins).

Waste will be drained from each animal enclosure and piped to a pre-treatment facility where the solids will be removed by screening for disposal at a sanitary landfill. The pre-treatment facility will include de-nitrification of the remaining liquid before it is directed to the sewer system. There will be two pre-treatment facilities, one on each side of the zoo since it is bisected by Rathbun Creek.

For the purposes of the Initial Study evaluation of stormwater and water quality basins, the implementation of performance standards described in the guidelines for the preparation and implementation of a site specific Stormwater

Pollution Prevention Plan (SWPPP) during construction activities, and a Water Quality Management Plan (WQMP) during the long term operation of the Big Bear Alpine Zoo will provide adequate mitigation for the project because these plans must show through Best Management Practices how the water quality will be maintained on-site and in the creek. There are a number of agencies that will be reviewing these plans because they have permitting authority over the project. These include but are not limited to the Santa Ana Regional Water Quality Control Board (RWQCB), US Army Corps of Engineers (USACE), and the Big Bear Area Regional Wastewater Agency (BBARWA). Because the District will be entering into an agreement with the Department, these documents will also be provided to Department staff for review.

As the planning process continues for the zoo, the exact size and location of the basins, as well as the specific Best Management Practices to be used to maintain the quality of the water leaving the basin and entering Rathbun Creek will be identified as appropriate in consultation with the various agencies with permitting authority over the creek and Big Bear Lake.

Comment 4-7 This comment states that the Initial Study underestimates jurisdictional habitat and impacts associated with the proposed development.

Response: This comment was provided by the Department prior to having an opportunity to review the 2012 JD for the project. The JD was prepared based on the preliminary grading plan and draft master plan for the proposed project and reflects the project information and existing site conditions as of summer 2012 when the JD field work was completed.

The delineation was based on a preliminary grading plan, which was the most current information available, and as the Department is aware, during the planning process for any site development, the preliminary grading plan is just that, and is followed up with interim and final grading plans as the site plan is refined. Thus, the jurisdictional delineation prepared for the project is the District's best estimate based on a preliminary plan, and has provided the mitigation for impacts to riparian habitat based on this plan. Understanding this, the District has requested consultation with the Department to determine the maximum impact to riparian habitat and adjust the proposed mitigation accordingly. As the Department is aware, the most common way to mitigate impacts is avoidance, and it is the District's intent, as grading plans continue to develop, to avoid to the extent feasible impacts to riparian habitat.

Comment 4-8 This comment states that ongoing routine maintenance to be a permanent impact and recommends avoidance of the streambed and associated floodplain to minimize the need for maintenance.

Response: The issue of maintenance of Rathbun Creek is less associated with the import and placement of fill than it is associated with upstream conditions that are out

of the control of the property owner, but that can adversely affect both the property owner and the section of the creek that traverses the project site. In addition to the undeveloped land associated with the national forest, land uses upstream of the project site include a ski resort, the existing zoo facility, a golf course with related club house, and residential neighborhoods. The need for maintenance is twofold, first is the routine removal of refuse that can enter the creek from upstream land uses, and second is the routine removal of debris coming downstream during heavy storm events that can get lodged in the existing riparian vegetation in the creek, causing a change (slow) in the flow rate of the stream and cause occasional flooding of the site and/or downstream properties.

The Department considers ongoing maintenance activities a permanent impact and recommends avoidance of the streambed and associated floodplain to minimize the need for maintenance. Regardless of whether the impact is considered temporary or permanent, maintenance of the creek to remove refuse and debris in order to maintain flows is occasionally required. As part of the consultation between the District and Department for the Streambed Alteration Agreement, the District will provide additional information on what staff believes is a necessary part of flood control maintenance of a creek in an increasingly urbanizing area, and will work with the Department to minimize potential impacts.

Comment 4-9 This comment states that the Initial Study did not adequately address direct and indirect effects of the project on Rathbun Creek and adjacent habitats.

Response: The existing conditions and proposed improvements to the project site and to Rathbun Creek are described and evaluated in two locations, Section IV, Biological Resources and Section IX Hydrology and Water Quality.

The Biological Resources section of the IS/NOI is based on a number of studies prepared for the proposed project that evaluated the direct and indirect impacts of the proposed project, based on the most up to date project information available about the project at the time of the preparation of the studies. These include:

1. *Moonridge Animal Park Relocation Project: General Biological Resources Assessment, Rare Plant Survey and Focused Southwestern Willow Flycatcher Survey*, Tanner Environmental Services, September 2011;
2. *Report of a Focused Survey for Special-Status Plant Species at the 10.3-acre Moonridge Animal Park Relocation Project Site, City of Big Bear Lake, San Bernardino County, California*, Athena Group, July 2012;
3. *Jurisdictional Delineation for the Moonridge Zoo Site, Athena Group, October 2012;*

4. *Potential Bridge Crossings for the Proposed Moonridge Zoo Site, Big Bear, California, memo from Athena Group to SDD, August 2012*
5. E-mail between Erinn Johnson (Athena Group) and John Taylor (USFWS) regarding Southwestern Willow Flycatcher (SWWF) critical habitat, June 2012.

All reports but the JD were included in the Draft IS/NOI that circulated for a 30-day public review on March 4, 2013. The JD was inadvertently omitted from Appendix C but was provided to the Department under separate cover. The District believes that adequate information exists in these reports for the Department to provide comments, input and direction to the District concerning the proposed Big Bear Alpine Zoo relocation project.

Hydrology and Water Quality. As evaluated in Section IX, the direct effects to the creek are related to flood control and are associated with the change in the drainage patterns across the site from sheet flow to controlled/directed flows through the site and into the water quality basins where runoff associated with storm events and melting snow will be retained and treated before entering the creek. Storm flows and flows from melting snow will continue to enter and flow through the creek from upstream sites and the national forest. Only the runoff associated with the site will be captured, treated and released.

The indirect effects of site development and related maintenance of the creek is a more predictable flow during a storm event of period of high snow melt and less likelihood of flooding of downstream properties, and better quality water entering Big Bear Lake. As the District continues to plan for the relocation of the Big Bear Alpine Zoo, additional planning and design of the site's hydrology and water quality basins will be made available to the Department through its Streambed Alteration Agreement consultation.

Comment 4-10 This comment states that a Streambed Alteration Agreement is required and that the jurisdictional delineation report prepared for the project must be reviewed by CDFW staff.

Response: The Jurisdictional Delineation report prepared for the project was inadvertently left out of the Initial Study that circulated for public review. This document has since been provided to the Department for review and comment. Section IV Biological Resources, describes the project and the process of consultation and permitting (including entering into a Streambed Alteration Agreement with CDFW) beginning on page 76. Figure 9 shows the jurisdictional impacts associated with the project and Table 13 identifies the agencies with jurisdiction over the project and the size of the impact to the riparian area; 1.33 acres riparian habitat under CDFW jurisdiction; and 0.82 acre under ACOE and RWQCB jurisdiction. As discussed in Section IV of the Initial Study, this impact will require consultation with the agencies under Section 404 of the Clean

Water Act (ACOE), section 401 of the Clean Water Act (RWQCB) and Section 1600 of the California Fish and Game Code (CDFW) and permits must be issued by each agency prior to commencement of any site activities that could adversely affect Rathbun Creek or its related upland areas.

Comment 4-11 This comment states that, based on the exhibits provided in the Initial Study, CDFW would have jurisdiction over the streambed and adjacent floodplain area including the associated meadow.

Response: The Biological Resources section of the IS/NOI summarized the findings of the JD prepared for the proposed relocation of the zoo. Biologists from the Athena Group surveyed the on-site upland areas to the west and east of Rathbun Creek, including the dry meadow montane, sagescrub meadow, and disturbed sage scrub converted to grassland areas, for physical indication of jurisdictional drainage features, including but not limited to, presence of an ordinary high water mark (OHMW), bed and bank, or swales. The findings of the JD were that no drainage features were observed in these upland areas. Exhibit 9 in the IS/NOI and Figure 3 in the JD show the location where soil samples to determine whether the upland area should be considered jurisdictional were taken.

In addition, areas meeting USACE-criteria for wetlands (i.e., predominance of hydrophytic vegetation, hydric soils, and wetland hydrology) do not occur in any of the upland areas west or east of Rathbun Creek. Appendix A of the Jurisdictional Delineation (JD) prepared for the project (includes the USACE Wetland Determination forms for the test plots of upland vegetation, soils, and hydrology).

Although the JD was inadvertently omitted from the Draft IS/NOI that circulated for public review, it was provided to the Department under separate cover and is included in the Final CEQA document provided to the Department.

Comment 4-12 CDFW has requested a site visit with BBVRPD staff to clarify the jurisdictional areas and associated habitats, and that subsequently, the Initial Study should be updated and new mitigation measures identified.

Response: As part of the consultation process for the Streambed Alteration Agreement, it has always been the District's intent to consult and coordinate with all of the resources agencies including CDFW. At the time that the JD was made available to the Department, the District's project manager also offered that the site was readily accessible for a field visit by Department staff at any point since: 1) the site is located at the intersection of Club View Drive and Moonridge Road; 2) local parking is provided either at the ski resort overflow lot immediately north of the project site or immediately south at the golf course; and 3) the site is not fenced. In addition, the District's project manager has

offered to meet Department staff on site at their convenience, and a date of September 27, 2013 has been agreed upon for a site meeting.

The District believes that a good faith effort has been made in the evaluation of the proposed project and that additional explanation in these responses to comments furthers the findings of the IS/NOI that potential impacts to environmental resources both direct and indirect, can be mitigated to less than significant levels.

Comment 4-13 In this comment CDFW has provided a link to obtain a *Lake or Streambed Alteration* notification package.

Response: The District and its consultant are familiar with CDFW's web site and the guidelines for completing the Lake or Streambed Alteration Agreement notification package. The District is in the process of drafting the application for the Agreement and will continue to consult with the Department, including a site visit prior to completing and submitting the notification package

Comment 4-14 The comment states that CDFW is opposed to any elimination of streams, channels, lakes and their associated habitat and recommends avoiding stream and riparian habitat to the greatest extent possible. CDFW suggests a minimum 3:1 replacement-to-impact ratio in either creation and/or restoration of in-kind habitat either on site or off site. Additional mitigation may be required.

Response: The District agrees with the Department that unavoidable impacts need to be compensated with the creation and/or restoration of in-kind habitat either on-site or off-site. To that end, the District prepared a JD that delineated the impacts to CDFW jurisdiction based on the draft master plan and preliminary grading plan. The JD concluded that of the 1.33 acres identified as being under the Department's jurisdiction, permanent impacts to Rathbun Creek would be 0.07-acre associated with the bridge, wall and sidewalk improvements. The District proposed mitigation for impacts associated with the development of the two bridges (BIO-2) and the perimeter wall and sidewalk (BIO-3) to restore riparian habitat at a 2:1 ratio. Therefore, the District would restore approximately 1/10-acre of habitat in Rathbun Creek. However, if during consultation for the Streambed Alteration Agreement, the District and Department agree on the Department's scenario to replace the entire 1.33 acres of Rathbun Creek that bisect the site at a 3:1 ratio, the restoration of 3.99 acres of Rathbun would be required. As part of the consultation for the Streambed Alteration Agreement, the District will work with the Department to identify areas of Rathbun Creek where habitat should be restored at a ratio agreed upon by the two agencies.

Comment 4-15 This comment identifies the information required for the processing of a Streambed Alteration Agreement.

Response: See response to comment 4-13.

Comment 4-16 This comment states that in the absence of specific mitigation measures in the CEQA document prevent CDFW from fulfilling its obligation as a Trustee and Responsible Agency.

Response: The District disagrees with the Department's opinion that specific mitigation measures for impacts to areas under the Department's jurisdiction have not been identified. Inherent in this opinion is the disagreement between the two agencies on what is within the Department's jurisdiction. The Department believes that Rathbun Creek and the upland meadow area fall under its jurisdiction, whereas, the District, based on a jurisdictional delineation prepared specifically for the project site believes that only Rathbun Creek is subject to the Department's jurisdiction. The District's opinion, that it is only Rathbun Creek that falls under the Department's jurisdiction is backed up with data collected from the site in 2012 during the preparation of the JD that included extensive soil sampling of the upland meadow area in addition to the delineation of Rathbun Creek.

Based on the findings of the JD, the District believes that mitigation measures for impacts to Rathbun Creek associated with the proposed project have been provided in the IS/NOI. Understanding that approval of the proposed mitigation measures is subject to review by the Department and that a Streambed Alteration Agreement must be completed with both agencies as signatories, the District, in good faith, proposed mitigation that we understand may be open to revision as part of the consultation for the Agreement, and may be more stringent. For example the proposed 2:1 replacement or restoration may be increased to 3:1; and that the Department may consider that the total reach of Rathbun Creek through the site is subject to this replacement/restoration and not just the 0.07-acre identified by the District for a total of 3.99 acres.

Comment 4-17 This comment states that cumulative impacts must be analyzed in the Initial Study.

Response: CEQA Guidelines Section 15130 requires the consideration of cumulative impacts when a project's incremental effect is cumulatively considerable. Cumulatively considerable means that "the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

In accordance with CEQA Guidelines Section 15130(b), "the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, the discussion need not provide as great [a level of] detail as is provided for the effects attributable to the project alone." The discussion should be guided by standards of practicality and reasonableness, and it

should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

Biological resources were considered in site surveys conducted in 2011 and 2012 (see response to comment 4-9 above). Assessments of the site's upland habitat, riparian habitat and surveys for rare plants and wildlife were made in both years, providing two years of data about the project site. The findings of the reports when reviewed together as a comprehensive site assessment conclude the following:

1. The project site is located in the Moonridge area of the City of Big Bear Lake, an area characterized as urbanizing with surrounding properties that are mostly developed with commercial retail and residential uses on the north, residential uses on the east and west, and a golf course and ski resort on the south.
2. The project site, although vacant, has been disturbed by residents using the vacant site. The golf course to the south has encroached with one of its tee boxes and is fenced off from the rest of the project site. A portion of the west side of the site was until recently (2011) developed as a single family property with a house, garage, yard and fencing.
3. No sensitive wildlife species or rare plants were observed during surveys of the project site in 2011 and 2012. Due to the condition of the onsite habitat and its relationship with the surrounding environment (residential neighborhoods, commercial corridor, golf course, ski resort, project biologists do not believe that the site would support sensitive wildlife species. However, it is possible that the riparian habitat may be utilized by the Cooper's hawk which is a CDFW Species of Special Concern but has no federal or Forest Service status.
4. Because the surrounding area is developed with a mix of commercial and residential uses, the project site is not part of an established wildlife corridor.
5. Due to the minimal number of trees on-site, nesting opportunities are limited to the riparian vegetation in Rathbun Creek and the project site likely provides foraging opportunities for a variety of bird species. However, there are adequate foraging and nesting opportunities south of the project site in the national forest, with the project site representing an island of vacant land within an otherwise urban setting.
6. Although the 2011 Habitat Assessment concluded that possible edge effects could include the exclusion of rare plants by invasive weeds, altered hydrology, or pollution from landscaping chemicals, there were no sensitive plant species identified in the buffer area around the project site.

With the exception of impacts to Rathbun Creek, the IS/NOI found that because the surrounding area is already developed with a variety of urban

uses, and that no sensitive plant or wildlife species were found on the project site during two years of surveys, project specific impacts on biological resources would not less than significant and would not result in cumulative impacts.

For Rathbun Creek the District intends to mitigate project impacts through restoration or replacement of riparian habitat in the creek, both on-site and off-site. Understanding that approval of the proposed mitigation measures is subject to review by the Department and that a Streambed Alteration Agreement must be completed with both agencies as signatories, the District, in good faith, proposed mitigation that we understand may be open to revision as part of the consultation for the Agreement, and may be more stringent. For example the proposed 2:1 replacement or restoration may be increased to 3:1; and that the Department may consider that the total reach of Rathbun Creek through the site is subject to this replacement/restoration and not just the 0.07-acre identified by the District. Therefore, there would be no cumulative loss of riparian habitat attributable to the proposed project.

Comment 4-18 This comment states that a CEQA document should analyze a range of fully considered and evaluated alternatives (including specific alternative sites) to the project that would avoid or otherwise minimize impacts to sensitive biological resources.

Response: An analysis of a reasonable range of alternatives to a proposed project is only required when an environmental impact report is being prepared. An EIR is prepared when the lead agency through an Initial Study or other preliminary evaluation of a proposed project determines that the project could have a significant unavoidable impact that cannot be mitigated to a less than significant level but that changes in the project or its location may mitigate that impact. With regard to the Big Bear Alpine Zoo relocation project, the District believes that the intent of CEQA to identify, evaluate and mitigate the potential impacts of the proposed project has been met through the preparation of the IS/NOI that was reviewed by the Department.

As discussed in response to comment 4-16 above, the District agrees with the Department that unavoidable impacts need to be compensated with the creation and/or restoration of in-kind habitat either on-site or off-site. The District proposed mitigation for impacts on riparian habitat associated with the development of the two bridges (BIO-2) and the perimeter wall and sidewalk (BIO-3) to restore riparian habitat at a 2:1 ratio. Therefore, the District would restore approximately 1/10-acre of habitat in Rathbun Creek. However, if during consultation for the Streambed Alteration Agreement, the District and Department agree on the Department's scenario to replace the entire 1.33 acres of Rathbun Creek that bisect the site at a 3:1 ratio, the restoration of 3.99 acres of Rathbun would be required. As part of the consultation for the

Streambed Alteration Agreement, the District will work with the Department to identify areas of Rathbun Creek where habitat should be restored at a ratio agreed upon by the two agencies.

The District believes that the proposed mitigation can be modified as necessary during consultation with the Department and that other alternatives to the project will not be necessary.

Comment 4-19 This comment states that CDFW does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to sensitive species.

Response: The District has provided two years of data on rare plants (2011 and 2012 rare plant surveys) to the Department that show that there are not rare plants on the project site. In addition, with regard to riparian habitat in Rathbun Creek, the District is proposing to restore riparian habitat the creek to mitigate for impacts associated with the bridge, wall and sidewalk improvements, and if necessary, for maintenance activities in Rathbun Creek to restore the creeks hydrology.

As discussed in response to comment 4-16 above, the District will be consulting with the Department through the Streambed Alteration Agreement process and at that time, the final acreage to be restored in the creek would be determined.

Comment 4-20 This comment states that the Initial Study should include copies of biological survey reports that have been completed in the past 12 months and that rare plant surveys be conducted using CDFW's 2009 Protocols (see comment 4-5).

Response: Please see response to comment 4-9 regarding the two years of data utilized in the preparation of the Initial Study. In addition, because the District believes that additional time will be required between project approval and commencement of disturbance, new surveys will be required for rare plants and wildlife species, including avian species that may use the site for nesting (Rathbun Creek) and foraging. This is set forth in mitigation measures BIO-1 and BIO-2 as follows:

BIO-1 Pre-construction Surveys - Nesting bird and sensitive species surveys shall be conducted approximately three to five days prior to commencement of any site disturbance. Depending on the species, buffer zones of 300 to 500 feet must be established around nesting birds until nesting is confirmed to have failed or fledglings are deemed sufficiently developed and independent. In general these buffer zones and protection for nesting birds under the Migratory Bird Act remain in place between February 15 and September 15.

BIO-2 If construction occurs at nighttime, habitat within a ½-mile buffer shall not be utilized for staging/storage so as to avoid impacts to sensitive

nocturnal species including California spotted owl, San Bernardino flying squirrel and roosting bald eagles.

Comment 4-21 This comment reiterates that the CEQA document should satisfy the requirements CDFW's Streambed Alteration Agreement.

Response: The District believes that the IS/NOI prepared for the proposed relocation of the zoo, including all the technical studies prepared for the project and included in the appendices attached to the IS/NOI, constitute a complete assessment of the potential environmental effects that may occur with construction and operation of the zoo. Technical studies include a number of biological resource assessments that provide two years of data about the project (2011 and 2012).

One of the studies, the jurisdictional delineation, identified the area where resources agencies including the Department have jurisdiction. The delineation was based on a preliminary grading plan (the most current information available, and as the Department is aware, during the planning process for any site development, the preliminary grading plan is just that, and is followed up with interim and final grading plans as the site plan matures. Thus, the jurisdictional delineation prepared for the project is the District's best guess based on a preliminary plan, and has provided the mitigation for impacts to riparian habitat based on this plan. Understanding this, the District has requested consultation with the Department to determine the maximum impact to riparian habitat and adjust the proposed mitigation accordingly. As the Department is aware, the most common way to mitigate impacts is avoidance, and it is the District's intent, as grading plans continue to develop, to avoid to the extent feasible impacts to riparian habitat.

The jurisdictional delineation was provided to the Department under separate cover and is also included in the Final CEQA document which the Department received a copy.

Comment 4-22 In this comment CDFW states that an Incidental Take Permit must be obtained if any state listed species or their habitats are impacted and that CDFW may choose to process its own CEQA document if it believes that the project's CEQA document does not meet its needs.

Response: A number of surveys were conducted at the project site in 2011 and 2012 that found, with the exception of the riparian habitat in Rathbun Creek, the project did not support any sensitive plant or wildlife species, and therefore, the District does not believe that an Incidental Take Permit will be required. However, because it is likely that site disturbance will not occur immediately, it is likely that additional surveys may be required due to the age of the reports. The District will consult with the Department as well as the Army Corps of Engineers to determine at that point, if additional studies are required.

Comment 4-23 This comment states that the CEQA document should provide a complete analysis of direct, indirect and cumulative impacts.

Response: The District believes that the IS/NOI prepared for the proposed relocation of the zoo, including all the technical studies prepared for the project and included in the appendices attached to the IS/NOI, constitute a complete assessment of the potential environmental effects that may occur with construction and operation of the zoo. Technical studies include a number of biological resource assessments that provide two years of data about the project (2011 and 2012).

Also see responses to comments 4-4, 4-6 through 4-8 and 4-17.

Comment 4-24 This comment states that the CEQA document should provide a complete analysis of alternatives to the project.

Response: See response to comment 4-18.

Comment 4-25 In this comment CDFW requests that the CEQA document include current information regarding biological resources.

Response: A number of surveys were conducted at the project site in 2011 and 2012 that found, with the exception of the riparian habitat in Rathbun Creek, the project did not support any sensitive plant or wildlife species, and therefore, the District does not believe that an Incidental Take Permit will be required. However, because it is likely that site disturbance will not occur immediately, it is likely that additional surveys may be required due to the age of the reports. The District will consult with the Department as well as the Army Corps of Engineers to determine at that point, if additional studies are required.

E-MAILED: APRIL 12, 2013

April 12, 2013

Ms. Carrie Hyke, AICP, District Planner, Carrie.Hyke@sdd.sbcounty.gov
 County of San Bernardino
 Special Districts Department
 157 West 5th Street, 2nd Floor
 San Bernardino, CA 92415-0450

**Draft Mitigated Negative Declaration (Draft MND) for the
 Proposed Big Bear Alpine Zoo Relocation Project**

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated into the Final CEQA document.

In the project description, the lead agency proposes demolition of the existing facility, grading with soil import of approximately 25,000 cubic yards of fill and construction of several structures. Building construction will include a 1,800 square foot education center with classrooms, a 700 square foot amphitheater, a 7,600 square foot administration building, 3,500 square feet of retail space, maintenance areas, restrooms, paved parking and other miscellaneous support buildings. In addition, overflow parking would exist using an existing unpaved parking area north of the proposed site by agreement with the lot owner. Construction would take approximately 18 months and be completed in 2014.

5-1

In estimating localized construction and operational air quality impacts, the lead agency concluded that both construction and operational localized impacts were less than significant. Since operational impacts from the Overflow Parking Lot exceed the significance thresholds for PM10 and PM2.5 as shown in Tables 8 and 5 in the Assessment, the lead agency has not demonstrated that operational localized impacts are less than significant. The SCAQMD staff recommends that localized operational daily emissions be shown in the Final MND comparing them with the applicable thresholds of significance. Since it is also noted in the project description and in an aerial map inspection that sensitive receptors are located within a quarter mile of the project site (residential properties located north, east and west of the proposed project), the SCAQMD staff recommends the following measures to ensure that any nearby sensitive receptors are not adversely affected by the operational activities that are occurring in close proximity. Specifically, the unpaved overflow parking area north of the project site could create potential adverse fugitive dust impacts to surrounding residences from

5-2

vehicles using that parking area. If those impacts are found to be significant, the SCAQMD staff recommends mitigation measures that could include the application of soil stabilizers according to manufacturer's specifications, enforcement of a reduced driving speed, paving the overflow parking area or consideration of other mitigation measures.¹

5-2
Con't

Please provide the SCAQMD with written responses to all comments contained herein prior to the adoption of the Final MND. The SCAQMD staff is available to work with the Lead Agency to address these issues and any other questions that may arise. Please contact Gordon Mize, Air Quality Specialist – CEQA Section, at (909) 396-3302, if you have any questions regarding these comments.

5-3

Sincerely,



Ian MacMillan
Program Supervisor, Inter-Governmental Review
Planning, Rule Development & Area Sources

IM:GM

SBC130305-03
Control Number

¹ http://www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html

Letter 5 South Coast Air Quality Management District, April 12, 2013

Comment 5-1 SCAQMD has provided a summary of the project description.

Response: The description of the project is accurate.

Comment 5-2 Comment states that the lead agency has not demonstrated that operational localized impacts are less than significant under operational conditions for the overflow parking lot. Comment further states that because there are sensitive receptors (local residents) within ¼ mile of the site, the Bear Mountain overflow parking lot should be treated with soil stabilizers and reduced vehicle speeds in the parking lot to reduce fugitive dust emissions.

In addition, SCAQMD requested additional LST analysis of construction emissions specifically associated with the grading and paving of the area of the overflow parking lot for the BBAZ

Response: The Initial Study Project Description (page 14) includes a discussion of the overflow parking lot. To accommodate BBAZ visitors, the project includes paving an area of the ski resort overflow parking lot equivalent to 150 spaces plus the driveway access at Moonridge Road. This is because parking for the Bear Mountain Resort is seasonal, and parking for the BBAZ would be year round.

Paving the parking lot to accommodate BBAZ visitors would reduce the operational emissions dramatically. It has always been the District's intent to pave the overflow parking lot for up to 150 visitor spaces as well as the access drive from Moonridge Road. However, in error, the Air Quality Assessment assumed that the parking lot would remain unpaved. This has been corrected and the CalEEMod model was run again assuming the correct project description. The numbers shown in parenthesis in Table 11 (Table 8 in the Air Quality Assessment) represent the project's impacts when the District's estimated share of the parking lot and the access drive are paved. As shown in the revised table, the project is not anticipated to result in a significant air quality impact and long-term mitigation measures are not required.

Table 11 in the Initial Study and Table 8 in the Air Quality Assessment and will be revised to reflect the District's intent to pave a portion of the parking lot associated with BBAZ visitor use, with revisions underlined.

However, with the addition of parking lot paving there would be a short-term increase in the emissions associated with the application of asphalt and the grading equipment, resulting in the exceedance of the threshold for Volatile Organic Compounds (VOC). Table 9 in the Initial Study (Table 6 in the Air Quality Assessment) has been corrected. Paving of a portion of the parking lot is anticipated to last approximately 3 weeks and once it is completed impacts to

Air Quality would be less than significant. This represents approximately 4 percent of the approximately 18-month construction schedule anticipated to complete phase 1 of the project.

Table 11 Project Operational Emissions

Source	Daily Emissions (lbs/day)					
	CO	VOC	NO _x	PM ₁₀	PM _{2.5}	SO _x
Vehicular Emissions	43.7	4.5	12.3	8.5	0.8	0.07
Natural Gas Combustion	0.2	0.02	0.2	0.02	0.02	0.00
Landscaping	0.0	0.0	0.0	0.0	0.0	0.00
Consumer Products	0.0	0.74	0.0	0.0	0.0	0.00
Architectural Coatings	0.0	0.24	0.0	0.0	0.0	0.00
Overflow Parking Lot (paved for BBAZ visitors)	0.0	0.0	0.0	72.6 (0.06)	7.2 (0.04)	0.00
Total Emissions	43.9	5.5	12.5	81.2 (8.58)	8.0 (0.86)	0.07
Significance Threshold	550	55	55	150	55	150
Exceed Threshold?	No	No	No	No	No	No

Source: CalEEMod, 2011.

**Table 9
Peak Construction Emissions**

Activity	Daily Emissions (lbs/day)					
	CO	VOC	NO _x	PM ₁₀	PM _{2.5}	SO _x
Demolition	43.9	71.4	9.0	4.3	3.6	0.07
Site Preparation	46.7	80.1	10.0	23.4	13.9	0.07
Grading (parking lot pre-paving)	38.6 <u>60.8</u>	62.9 <u>111.6</u>	7.7 <u>13.2</u>	52.5 <u>54.3</u>	6.7 <u>6.6</u>	0.07 <u>0.12</u>
Construction	25.1	35.8	5.4	2.6	2.3	0.04
Paving	21.7	32.2	5.3 <u>6.4</u>	3.0	2.8	0.03
Painting	2.1	2.8	44.0	0.3	0.2	0.00
Existing Zoo Demolition	42.1	66.4	8.5	4.2	3.2	0.07
Total Emissions	43.9	5.5	12.5	81.2 (8.58)	8.0 (0.86)	0.07
Concurrent Activity Emissions:						
Construct/Paint/Pave (parking lot area for BBAZ visitors)	48.9	70.8	54.7 <u>55.8</u>	5.9	5.3	0.07
SCAQMD Threshold	550	100	75	150	55	150
Exceed Threshold?	No	No <u>Yes</u>	No	No	No	No

NOTE: Construction emissions include standard mitigation as required by SCAQMD rules. Particulate (PM₁₀ and PM_{2.5}) emissions include 61 percent reduction from watering exposed areas three times daily.

Finally, with regard to an LST analysis the thresholds were checked to make sure that no exceedances occurred when paving the overflow lot is included in the construction mix. Table 10 in the Initial Study (Table 7 in the air quality

assessment) showed the results of the LST analysis. The revised table shows that there will be no exceedances of the LST thresholds for construction with the addition of the paved overflow parking lot.

**Table 10
On-Site Emissions by Construction Activity (LSTs)**

Activity	Daily Emissions (lbs/day)			
	CO	NO _x	PM ₁₀	PM _{2.5}
Demolition	42.6	70.7	3.8	3.5
Site Preparation	45.4	80.0	23.1	13.9
Grading	31.0	48.8	6.2	6.1
(parking lot pre-paving)	<u>52.9</u>	<u>97.5</u>	<u>7.4</u>	<u>5.9</u>
Construction	23.5	34.7	2.3	2.3
Paving	20.7	32.1	2.7	2.7
Painting	1.9	2.8	0.2	0.2
Existing Zoo Demolition	41.0	66.2	3.3	3.2
Concurrent Activity Emissions				
Construct/Paint/Pave	46.1	69.5	5.9	5.3
SCAQMD LST Threshold	2,075	75	150	55
Exceed Threshold?	No	No	No	No

Source: CalEEMod, 2011.

Comment 5-3 SCAQMD has requested written responses to all comments prior to adoption of the MND

Response: Responses to SCAQMD's comments will be provided prior to adoption of the Final MND.



Santa Ana Regional Water Quality Control Board

April 22, 2013

Carrie Hyke, District Planner
County of San Bernardino Special Districts Dept.
157 West 5th Street, 2nd Floor
San Bernardino, CA 92415-0450

NOTICE OF INTENT TO ADOPT MITIGATED NEGATIVE DECLARATION FOR RELOCATION OF BIG BEAR ALPINE ZOO (AKA MOONRIDGE ZOO) -- MOONRIDGE ROAD AT CLUB VIEW DRIVE, CITY OF BIG BEAR LAKE, SCH #2013031010

Dear Ms. Hyke:

Staff of the Regional Water Quality Control Board, Santa Ana Region (Regional Board) has reviewed the Notice of Intent to Adopt a Mitigated Negative Declaration (MND) for the Big Bear Alpine Zoo Relocation Project (Project) in the City of Big Bear Lake (City).

The Big Bear Alpine Zoo, also known as the Moonridge Zoo or Animal Park, is currently located within the City on a 2.5-acre site along Goldmine Drive, south of the Bear Mountain Golf Course. The Project is to move the facility three-fourths of a mile north of its current location to a 10.4-acre site, classified as a dry montane meadow, located north and immediately downstream of the Golf Course, and south of the Y-junction of Moonridge Road and Club View Drive. The Project includes a strip of land to the northwest of the proposed zoo site that is to be paved for a 150-space parking lot, to be shared by the Zoo and Bear Mountain Ski Resort.

The Project includes demolition of the current Zoo. The new facility will be expanded according to the Moonridge Animal Park Relocation Master Plan (MND Appx. A), under the authority of the Big Bear Valley Recreation and Park District (District). Approximately 150 individual animals will be housed in updated enclosures, including several large "exhibits" located outdoors. The Zoo will include a hospital and rehabilitation center for injured and confiscated animals.

In order to protect the waters of the region, and to conform with the water quality standards (i.e., water quality objectives and beneficial uses) identified in the Water Quality Control Plan for the Santa Ana River Basin, Region 8, 1995, as amended (Basin Plan), we request that the following comments be considered prior to adoption of the Project's MND, and incorporated into the final MND, as appropriate.

1. Water quality criteria that apply to the site include:

- A. The following water quality objectives (WQO)
 - Rathbun Creek - Total Dissolved Solids (TDS) of 300 milligrams per liter (mg/l).
 - Big Bear Lake - WQOs of 175 mg/l for TDS and 0.15 mg/l for Total Inorganic Nitrogen (TIN).

6-1

- Bear Valley Groundwater Management Zone (GMZ) - WQOs of 220 mg/l for TDS and 5 mg/l for nitrate-nitrogen (NO₃-N).

B. The following beneficial uses¹:

- Rathbun Creek - MUN, GWR, REC1, REC2, COLD, and WILD;
- Big Bear Lake – MUN, AGR, GWR, REC1, REC2, both WARM and COLD, WILD, and RARE;
- Stanfield Marsh Wetlands near the mouth of Rathbun Creek - MUN, REC1, REC2, COLD, WILD, and RARE; and for
- Bear Valley GMZ - MUN and PROC.

In addition, the Regional Board has adopted a Total Daily Maximum Load (TMDL) addressing nutrient loadings to Big Bear Lake for dry hydrologic conditions, including pollutant load and waste load allocations for nutrients. Please note that this existing TMDL is for dry conditions only; the Board staff expects to develop a Big Bear Lake nutrient TMDL for wet conditions that will address nutrient discharges to the Lake under all hydrological conditions including stormwater discharges.

Rathbun Creek is on the 2010 Clean Water Act (CWA) Section 303(d) list as impaired for nutrients, sedimentation/siltation, cadmium (Cd), and copper (Cu). Big Bear Lake is listed as impaired for nutrients, mercury, noxious aquatic plants, and polychlorinated biphenyls (PCBs)

Discharges from the Project must conform to the waste load allocations in the Big Bear Lake nutrient TMDL. Even small additional increments of nutrients and oxygen demanding wastes discharged into the Rathbun Creek watershed, such as waste from the Zoo, may adversely affect aquatic life and overall beneficial uses of the Creek and Big Bear Lake. TMDLs are pending for nutrients in Big Bear Lake tributaries (Rathbun Creek), for sediment in Rathbun Creek and Big Bear Lake, for metals in the Big Bear Lake Watershed, and for mercury in Big Bear Lake.

The MND should list the Basin Plan's WQOs, beneficial uses, and TMDLs for the above-referenced water bodies, and evaluate the Project's potential to affect compliance with them. The evaluation should consider the effects the construction and operation of the project will have on water quality standards and TMDL.

2. Proposed Project Site

6-2

The proposed Project site is bisected by Rathbun Creek (Creek), a perennial stream, and 1.33 acres of waters of the state, with arroyo willow riparian forest (MND p.71-5, p.121) extant along the Creek. Emergent marsh within the Creek has been delineated as covering 0.82 acre of wetlands subject to federal jurisdiction (Jurisdictional Delineation, JD p.19). Zoo grounds and buildings will occupy the floodplain on both sides of the Creek (Exhibit 2, Site Plan). Vegetation on this part of the floodplain has been characterized as dry, montane meadow. Project construction will have minimal impact to riparian vegetation but will heavily impact two other

¹ Municipal and Domestic Supply (MUN), Groundwater Recharge (GWR), Water Contact Recreation (REC1), Non-Contact Water Recreation (REC2), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Agricultural Supply (AGR), Warm Freshwater Habitat (WARM), Industrial Process Supply (PROC), and Rare, Threatened, or Endangered Species (RARE).

floodplain vegetative communities (dry meadow and sagebrush variations). The MND reports that special status plant species are not present on the project site² (MND Focused Survey).

The Project would import approximately 25,000 cubic yards of soil in order to elevate the entire site, including building and exhibit space pads, 1-5 feet above the elevation of the floodplain. No soil fill is planned for the Creek (see Comment 3).

3. Proposed Site Construction, and compliance with Regional Board Order No. R8-2010-0036, NPDES Permit No. CAS618036³

Board staff is concerned that the constructed elevated pads will create a restriction to overbank flow and drainage from the Creek's floodplain that may cause hydrological conditions of concern (HCOC) downstream. HCOC are not identified as a project impact and have not been analyzed in, or mitigated for, in the MND.

We understand that no fill will be intentionally placed in Rathbun Creek, other than a "perimeter wall" located at the upstream boundary. Board staff is concerned that this wall will collect debris and lead to HCOC. The final MND should describe how the "perimeter wall" will be maintained so as to not obstruct Rathbun Creek storm flows or create HCOC.

6-3

Board staff is aware that the Hydrology Study (Appx. G.1) has calculated only slight increases between pre- and post-Project peak-flows, as modeled for 10-year, 25-year, and 100-year design storms. Therefore, the Hydrology Study recommends that on-site stormwater controls alone appear to be sufficient for onsite run-on and runoff management, on the basis of the pads being raised. This analysis apparently did not adequately consider the effect that elevating the site may have on the hydrology of the Rathbun Creek floodplain. The Zoo would still remain vulnerable in the floodplain indicated on Federal Emergency Management Agency (FEMA) maps (FEMA Floodway Zone AE, Appx. G.2), and would be at risk for possible inundation, damage, and subsequent water quality degradation.

The elevated pads and foundations will likely alter overbank flood flows and overbank deposition, and constrict floodwaters from the upstream sub-watershed (the Sand Canyon, Bow Canyon, and Deer Canyon tributaries to Rathbun Creek; Hydrology Study Figure 1A). Since the elevated pads and foundations will resist erosion and deflect flows, stormwater runoff flowing around them is expected to increase in velocity and become more erosive downstream. Furthermore, Exhibit 2 (Site Plan) indicates that at least two zoo structures would be located where flooding may undermine them.

² The California Department of Fish and Wildlife (CDFW) has communicated to our staff that they are dubious of the detail of survey protocol for endemic plant species. Therefore, Regional Board staff encourages further discussion between CDFW and the District.

³ "Waste Discharge Requirements for the San Bernardino County Flood Control District, the County of San Bernardino, and the Incorporated Cities of San Bernardino County within the Santa Ana Region, Area-Wide Urban Storm Water Runoff Management Program." Order No. R8-2010-0036 requires appropriate Best Management Practices (BMPs; MS4 permit p.72, etc.) and management measures must be implemented to control the discharge of point source and non-point source pollutants, both during construction and for the life of the Project. Post-construction BMPs must address all pollutant loads carried by dry weather runoff and first-flush storm water runoff from the development, which must conform to the provisions of the Water Quality Management Plan (WQMP) required by the San Bernardino County MS4 permit. In compliance with the MS4 permit, the proposed 150-space parking lot must have BMPs so that wastes in runoff from the parking lot, particularly during ski season, do not enter Rathbun Creek

Regional Board staff believes that the proposed constructed pads and foundations situated on the flood plain abutting the Creek, and the "perimeter wall," are likely to create HCOCs, in violation of requirements contained in the Regional Board's Order No. R8-2010-0036. A possible remedy is to relocate the zoo to a site that is not in a floodplain, instead of to this specific site.

4. Future zoo operations and waste discharges

6-4

Future operations (MND p. 25-26, 155) include washing the various enclosures (following removal of most solid waste) and discharging this wastewater into two, onsite, soft-bottomed detention basins, in series (a third, unrelated detention basin would be located offsite). Stormwater runoff would apparently commingle with wash-down wastewater in these basins. The MND reports that the two onsite basins would phyto-remediate and/or infiltrate this wastewater before discharge directly into Rathbun Creek.

Discharges of waste from the proposed project to Rathbun Creek treated in this manner, including discharges from treatment basins and rainfall runoff that has been in contact with animal wastes, are not acceptable and will not be allowed. Furthermore, wash water managed in the manner proposed represents a potential nuisance.

Alternatively and preferably, wash down water and wastewater from the animal enclosures should be discharged into the area's existing sanitary sewer system along with the Zoo's domestic wastewater. This is the practice for other zoos in Southern California. Prior to final approval, the Project should be required to obtain approval from the City of Big Bear Lake and/or the Big Bear Area Regional Wastewater Authority (BBARWA) to discharge wash down wastes from the zoo to the sanitary sewer system.

5. Impacts to waters of the State and the United States

6-5

The facility grounds on either side of the creek will be connected by two footbridge spans. As proposed, the footbridges will not be supported by piers in the Creek. The footbridges will encroach upon clumps of riparian willows (MND Initial Study p.85-86). The proposed "perimeter wall" located at the upstream boundary of the site, represents a "discharge of fill" to waters of the U.S.

As mentioned in the MND, the applicant will need to discuss impacts to waters of the U.S. with the U.S. Army Corps of Engineers (Corps) and likely obtain a CWA Section 404 Permit. A CWA Section 401 Water Quality Standards Certification (Certification) must be obtained from the Regional Board as a prerequisite to the Corps issuing the 404 Permit. The MND reports the project will impact 0.02 acre and 16 linear feet that is within Corps jurisdiction, and 0.05 acre of impacts to state waters (0.02 acre of which are permanent impacts) (MND Initial Study p.86, Figures 9-10b, and JD p.19). If for any reason the Corps does not accept federal jurisdiction for these waters, then the Regional Board will accept jurisdiction of them as waters of the state and consider issuance of WDRs related to fill.

Permanent impacts to waters of the state should be avoided to the maximum extent possible. The MND makes mitigation and monitoring recommendations to provide in-kind mitigation to compensate for unavoidable impacts to waters of U.S. and state. The MND recommends, "... revegetation of the willow riparian forest and/or replacement through land acquisition," in an effort to conserve "... 0.25 mile of contiguous linear suitable habitat," and Mitigation Measure BIO-

4 (Initial Study p.88) calling for restoration of 0.04 acre of downstream wetland habitat. These concepts appear to be generally acceptable to Regional Board staff, although the exact acreage involved must be reported as part of the application for the Certification or WDRs. Mitigation should be secured before Project implementation and implemented on the same timeline as the Project, in order to avoid temporal loss of resources. Mitigation sites must be protected from conflicting land uses through conservation easements or other appropriate restrictive land use instruments.

In summary, Board staff believes that the project as proposed will:

- A. Create unmitigated HCOC; and,
- B. Treat wastes in a manner that is unacceptable to Board staff.

Since the proposed Project represents significant, unmitigated threats to water quality, Board staff does not believe that the Project is viable, as proposed. These threats can be addressed by selecting a different site for the zoo relocation that is not adjacent to a perennial stream, and by planning to discharge all wash water and first-flush rainfall runoff to the sanitary sewer.

If you have any questions, please contact Glenn Robertson at (951) 782-3259 or Glenn.Robertson@waterboards.ca.gov, or me at (951) 782-3234 or Mark.Adelson@waterboards.ca.gov

Sincerely,



Mark G. Adelson, Chief
Regional Planning Programs Section

Cc: State Clearinghouse
U.S. Army Corps of Engineers, Los Angeles – Jason Lambert
U.S. Environmental Protection Agency – Gene Sylls, sylls.gene@epa.gov
California Dept. of Fish and Wildlife, Ontario - Kim Freeburn-Marquez

X:Groberts on Magnolia/Data/CEQA/CEQA Responses/Mit Neg Dec - County of San Bern Special Districts Dept. – Relocate Moonridge Zoo-MGA.doc

Letter 6 Santa Regional Water Quality Control Board, April 22, 2013

Comment 6-1 Comment lists the water quality criteria that apply to the project site and states that Rathbun Creek is on the 210 Clean Water Act Section 303(d) list as impaired for nutrients, sedimentation/siltation, cadmium (Cd), and copper (Cu); and that the lake is listed as impaired for nutrients, mercury, noxious aquatic plants, and PCBs.

Response: This comment adds to the discussion of the Big Bear Lake watershed on page 113 of the Initial Study by providing a list of the specific constituents identified in the amended Basin Plan for the lake. However, it should be noted that the discussion on page 113 provides adequate information to the reader to be able to discern that the lake and its watershed are impaired and subject to specific nutrient Total Maximum Daily Loads (TMDLs) established by the Water Board.

The District is aware that both Rathbun Creek and Big Bear Lake are listed as impaired water bodies for various constituents. The following Basin Plan water quality objectives will be adhered to for the control of discharges from the new zoo facility to Rathbun Creek:

- Total Dissolved Solids - 300 mg/l
- Total Inorganic Nitrogen - 0.15 mg/l
- Nitrogen/Nitrates - 5.00 mg/l

Although the Water Board's response did not provide thresholds for nutrient and sediment loading in Rathbun Creek or the lake, it is the District's intent to adhere to the TMDL's as noted in the Basin Plan. To ensure that these objectives can be obtained, the project proposes to separate the animal enclosure wash down flows from storm flows, pre-treat the wash down water, including mechanical screening and nutrient removal, and de-nitrification at a minimum, and dispose of the treated water in the City sewer system. During construction of the new facility, Best Management Practices will be used to protect the creek from erosion and runoff generated on the project site.

To ensure that Basin Plan objectives for the lake can be obtained, the District is proposing to separate the animal enclosure wash down flows from storm flows, pre-treat the wash down water, including mechanical screening and nutrient removal, and de-nitrification at a minimum, and dispose of the treated water in the City sewer system. In addition, as part of the District's water quality management planning effort, staff intends to employ BMPs for the capture and control of stormwater and snow melt from impervious surfaces such as sidewalks, rooftops and parking areas by treating the "first flush" (prior to entering the water quality basins).

Waste will be drained from each animal enclosure and piped to a pre-treatment facility where the solids will be removed by screening for disposal at a sanitary landfill. The pre-treatment facility will include de-nitrification of the remaining liquid before it is directed to the sewer system. There will be two pre-treatment facilities, one on each side of the zoo since it is bisected by Rathbun Creek. Attached you will find an Errata Sheet to the Initial Study to describe the wastewater treatment process for the zoo.

Comment 6-2 Comment provides a description of Rathbun Creek and the project's import of fill to elevate the site out of the floodplain. Board staff is concerned that construction of elevated pads would create a restriction in flows that could create hydrological conditions of concern (HCOC) downstream which were not evaluated in the Initial Study

Response: The District proposes to elevate the site, exclusive of the creek area, by 1 to 5 feet in order to maintain a minimum of 1-foot of elevation above the mapped flood plain. Building pads are proposed to be further elevated but should not result in a restriction to overbank flow. Further, the project proposes to route on-site stormwater drainage to two detention ponds located on either side of the creek. The ponds will be designed with additional capacity to accept any unanticipated flows occurring from creek flows topping the banks of the channel. Further, the culvert crossing at Moonridge Road will be improved to match the flow in the channel and will include an energy dissipater on the downstream side to manage flow velocities and reduce impacts downstream. This crossing is currently undersized for the existing wet weather flow which has resulted in flooding of both the project site and Moonridge Road. The undersized crossing has been a key factor in past flooding events in the vicinity by causing restriction to stormwater flows.

The perimeter wall, which is a requirement of the American Zoological Association, will be designed at the road grade and will not extend down into the creek bed on the north side and thus will not restrict storm flows in the channel. The fencing at the creek crossing on the south side of the project will be designed to propagate the flow through the site, and will also need to be secured. The exact method for allowing the flow through the wall while maintaining security will be determined in the final design stage of the project. The District agrees that whatever screening or grating is employed will require constant maintenance and inspection to ensure that debris does not obstruct the flow. The Big Bear Alpine Zoo (BBAZ) maintains sufficient staff to ensure that this maintenance is provided.

Relocation of the BBAZ to an alternate site is not an option for this project. The District believes that the final engineering design can resolve all the issues addressed in the Water Board's review. The District further sees this project as an opportunity to correct current drainage deficiencies and improve both the

flow capabilities and the water quality of Rathbun Creek, resulting in improved water quality in Big Bear Lake itself.

Comment 6-3 Comment states that the proposed method for detaining stormwater and wash-down water on site will not be allowed by the Water Board. Wash-down water and wastewater from animal enclosures should be discharged into the local sanitary sewer system.

Response: The District agrees with the Water Board regarding the comingling of storm flows and enclosure wash down flows. As noted above it is now the intent of the project to maintain separation of these flows and to discharge the wash down water to the sanitary sewer. The District has been in discussions with the Big Bear Area Regional Wastewater Authority (BBARWA), regarding their requirements for the discharge. It should be noted that the Special Districts Department has multiple districts in the area that are member entities of BBARWA and is represented on the BBARWA Board.

Comment 6-4 Comment states that although the proposed bridges across Rathbun Creek would not be supported by any structures in the creek, the proposed perimeter wall located at the upstream boundary of the site represents a “discharge of fill” to waters of the US. The proposed mitigation to revegetate other areas of Rathbun Creek is acceptable to the Water Board and the final location and amount of acreage must be documented in the Water Quality Certification or Waste Discharge Requirements.

Response: The District agrees with the Water Board’s comments in this section of its response and will work with all affected agencies to secure the necessary permits and mitigation requirements, as noted in the Initial Study. No construction or otherwise implementation of the project will proceed until all the necessary permits have been obtained.

In summary, it is the District’s opinion that the site in question can be utilized for the proposed project and that the potential for hydrologic conditions of concern can be mitigated through coordination with the affected regulatory agencies and the use of sound engineering principles. The separation of the waste washdown water from storm flows, as proposed herein, should relieve the Water Board’s concerns regarding the manner of discharge. The “first flush” flows that hit the enclosures will likewise be contained within the animal enclosures through physical barriers, such as berms, curbing or grade separation, then conveyed to the pre-treatment facilities and ultimately to the sanitary sewer system.

Comment 6-5 Comment states that the Board believes that the project would create unmitigated HCOC and treat wastes in a manner that is unacceptable to the Board. In addition, the comment states that the project represents significant, unmitigated threats to water quality and that the solution would be to select a

different site that is not adjacent to a perennial stream and by planning to discharge all wash water and first flush rainfall runoff into the sanitary sewer.

Response: See responses to comments 6-2, 6-3 and 6-4 above. In addition, the concept of recycling stormwater for use on site is presently impractical and the District no longer intends to pursue using recycled stormwater.



Big Bear Municipal Water District

Lake Management

Board of Directors

Todd Murphy - Division 1
 Mary Ann Lewis - Division 2
 Skip Suhay - Division 3
 John Eminger - Division 4
 Vince Smith - Division 5

March 18, 2013

Carrie Hyke, District Planner
 County of San Bernardino Special Districts Department
 157 West 5th Street, 2nd Floor
 San Bernardino, CA 92415-0450

Reference: Big Bear Alpine Zoo Relocation Project, Draft Initial Study and Notice of Intent to Adopt a Mitigated Negative Declaration

Dear Ms. Hyke,

The Big Bear Municipal Water District (District) thanks your department for providing this opportunity to comment on the referenced intent to adopt a mitigated negative declaration in conformance with CEQA. The District recognizes that the Big Bear Valley community has been waiting years for action to be taken that will finally allow the relocation and expansion of the popular Moonridge Animal Park. The CEQA document appears to have thoroughly evaluated issues related to noise, air quality and surface water hydrology. However, the District is not convinced that water quality received the same amount of attention and is concerned about this.

7-1

As the CEQA document points out, a nutrient TMDL has been adopted by the Santa Ana River Regional Water Quality Control Board for Big Bear Lake. Over the past several years hundreds of thousands of taxpayer dollars have been spent studying, monitoring and managing this issue. This CEQA document generally discusses the construction and use of three water quality basins presumably in recognition of the TMDL. However, details regarding their design, operation, maintenance, monitoring and effectiveness appear lacking.

The quality of runoff water entering Rathbun Creek from the new zoo is of particular interest. Also, a comparison to the runoff from the existing facility will be particularly informative. The District would like to see data included and analyzed in the document that answers the following questions;

1. What is the quality of runoff water from the existing zoo where it enters Rathbun Creek?
2. What is the probable quality of runoff water from the proposed zoo as it enters Rathbun Creek?
3. What specific contamination constituents will the water quality basins treat?

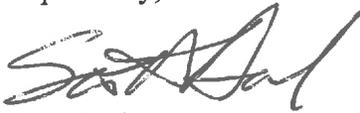
7-2

4. How much of a reduction in contamination constituent concentrations, particularly phosphorous and nitrogen, will occur as water moves through the water quality basins?
5. The project proposes to use “sustained detention times and native plant materials to filter and treat water”. What does this mean? How many hours or days of treatment are proposed?
6. Which native plant species will be incorporated into the construction of the water quality basins?
7. Assuming that growing plants will be effective in reducing contaminant concentrations from zoo runoff water, which plants will be growing during cold and freezing winter months? What effect will cold weather have on the effectiveness of the water quality basins?
8. The document describes disposal of “excess sediment” from the water quality basins will be transported to “for offsite usage or disposal”. What use could this material be put to and what will be the criteria of disposal sites?

7-2
Con't

The District is hopeful that a more thorough evaluation of the above described water quality issues along with supporting data will be incorporated into the final CEQA document. If you have questions regarding our concerns please do not hesitate to contact the District.

Respectfully,



Scott Heule
General Manager

Letter 7 Big Bear Municipal Water District, March 18, 2013

Comment 7-1 BBMWD acknowledged that environmental issues were thoroughly evaluated with the exception of water quality. BBMWD would like more information about the three water quality basins proposed on site in light of the nutrient TMDL that has been adopted by the RWQCB.

Response: The District is aware that both Rathbun Creek and Big Bear Lake are listed as impaired water bodies for various constituents. The following Basin Plan water quality objectives will be adhered to for the control of discharges from the new zoo facility to Rathbun Creek:

- Total Dissolved Solids - 300 mg/l
- Total Inorganic Nitrogen - 0.15 mg/l
- Nitrogen/Nitrates - 5.00 mg/l

To ensure that Basin Plan objectives for the lake can be obtained, the District is proposing to separate the animal enclosure wash down flows from storm flows, pre-treat the wash down water, including mechanical screening and nutrient removal, and de-nitrification at a minimum, and dispose of the treated water in the City sewer system. In addition, as part of the District water quality management planning effort, staff intends to employ BMPs for the capture and control of stormwater and snow melt from impervious surfaces such as sidewalks, rooftops and parking areas by treating the “first flush” stormwater (prior to entering the water quality basins).

Waste will be drained from each animal enclosure and piped to a pre-treatment facility where the solids will be removed by screening for disposal at a sanitary landfill. The pre-treatment facility will include de-nitrification of the remaining liquid before it is directed to the sewer system. There will be two pre-treatment facilities, one on each side of the zoo since it is bisected by Rathbun Creek.

For the purposes of the Initial Study evaluation of stormwater and water quality basins, implementation of performance standards described in the guidelines for the preparation and implementation of a site specific Stormwater Pollution Prevention Plan (SWPPP) during construction activities, and a Water Quality Management Plan (WQMP) during the long term operation of the Big Bear Alpine Zoo provide adequate mitigation for the project because these plans must show through Best Management Practices how the water quality will be maintained on-site and in the creek. There are a number of agencies that will be reviewing these plans because they have permitting authority over the project. These include but are not limited to the Santa Ana Regional Water Quality Control Board (RWQCB), US Army Corps of Engineers (USACE), and the Big Bear Area Regional Wastewater Agency (BBARWA).

In addition, the concept of recycling stormwater for use on site is presently impractical and the District no longer intends to pursue using recycled stormwater.

Comment 7-2 BBMWD provided a list of questions concerning the quality of the runoff water that would enter Rathbun Creek from the new zoo.

Response: Please see response to comment 7-1.

City of Big Bear Lake



PLANNING DEPARTMENT

April 9, 2013

Carrie Hyke, District Planner
 County of San Bernardino Special Districts
 157 W 5th Street, 2nd Floor
 San Bernardino, CA 92415-0450

Via email – Carrie.Hyke@sdd.sbcounty.gov

RE: Initial Study/Mitigated Negative Declaration
 Big Bear Alpine Zoo Relocation
 747 to 787 Club View Drive, Big Bear Lake, California
 APN's 2328-472-01, 02 and 03

This letter is in response to the Notice of Intent to Adopt a Mitigated Negative Declaration dated March 1, 2013. The County of San Bernardino Special Districts Department is the Lead Agency for the preparation of the environmental document under CEQA. The project is located within the incorporated limits of the City of Big Bear Lake, and therefore, the City is an agency with Jurisdiction by Law under CEQA.

The City streets of Moonridge Road and Club View Drive adjoin the property and provide access to the Big Bear Alpine Zoo (BBAZ). The City of Big Bear Lake Department of Water will be providing domestic water, a portion of the water for irrigation, and water for fire suppression to the property. Domestic sewage from the BBAZ will be deposited into the City's domestic sewer system operated and maintained by the City of Big Bear Lake Sanitation Department. Storm water drainage from areas outside of the walled perimeter of the BBAZ will be collected in the storm drain system operated and maintained by the City of Big Bear Lake Public Works Department.

8-1

The City departments and our consultants have reviewed the Initial Study, Mitigated Negative Declaration, and Technical Appendices for the analysis, discussion of impacts, and establishment of mitigation measures for impacts in our areas of concern. Our primary areas of concern are the project's potential to generate pollutant-laden storm and wash water runoff from the property; the project's potential to displace floodwaters of Rathbun Creek by the raising the grade of the property, and the project's potential to cause an adverse traffic impact to vehicular and pedestrian circulation at the Moonridge Road and Club View Drive intersection. These primary

8-2

City of Big Bear Lake Civic Center and Performing Arts Center
 39707 Big Bear Boulevard, P.O. Box 10000, Big Bear Lake CA 92315 • 909/866-5831 • Fax 909/866-7511

Carrie Hyke
 Response to Notice of Intent to Adopt a Mitigated Negative Declaration
 Big Bear Alpine Zoo Relocation
 April 9, 2013
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areas of concern, along with other lesser areas of concerns in the areas of scenic views, air quality, soil erosion, refueling activities, and noise will be more fully discussed under the appropriate CEQA headings below:

- Aesthetics
- Air Quality
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation, Circulation and Traffic

8-2
 Con't

Aesthetics

The City understands that a view analysis was performed as part of the Initial Study. The City understands that the project is not being evaluated for compliance with the City of Big Bear Lake General Plan. However, the City's General Plan Community Design Element¹ contains policies to consider views through the site to features beyond and to utilize view fencing instead of solid fencing to protect views. The general public currently benefits from a scenic view through the subject property and golf course to the mountain ridge located to the south. The majority of this view from Moonridge Road and Club View Drive will be obscured by a raise in the grade, a ten-foot high wall, landscaping, and buildings associated with the development of the property. The City recommends that the Special District's Department and Big Bear Valley Recreation and Parks District maintain views through the property by the use of open view fencing to the maximum extent possible. The City further recommends that the landscaping plan for the BBAZ project carefully consider the location and placement of trees in order to maintain views through the property to the prominent mountain ridgeline to the south for the citizens of Big Bear Lake.

8-3

Air Quality and Odors

As stated in the Initial Study, the project requires the import of 25,000 cubic yards of fill material. The City estimates the number of truck trips associated with the transport of this material to be 2,500 to 3,000 trips. The Initial Study indicates that grading will occur over 75 days. Additional truck trips will be associated with paving activities, which is estimated to take 20 days. These truck trips do not include trips associated the construction of buildings on the site. In addition to the watering measure recommended in the Initial Study for fugitive dust, the City has successfully implemented the following mitigation measures on similar large grading projects, and recommends that the following mitigation measures be applied to the project:

8-4

AQ-2 During grading and construction activities, on-site stockpiles of debris and dirt should be covered.

¹ Policy CD 1.1 and CD 2.2

Carrie Hyke

Response to Notice of Intent to Adopt a Mitigated Negative Declaration

Big Bear Alpine Zoo Relocation

April 9, 2013

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AQ-3 The contractor should minimize pollutant emissions by maintaining equipment engines in good condition and in proper tune according to the manufacturer's specifications and by not allowing construction equipment to be left idling for more than five minutes (per California law) during smog season (May through October).

8-4
Con't

AQ-4 All clearing, grading, earth-moving, or excavation activities should cease when winds exceed 25 mph per South Coast Air Quality Management District guidelines.

AQ-5 The contractor should ensure the use of low-sulfur diesel fuel in construction equipment as required by the California Air Resources Board.

Geology and Soils

The City is concerned that with the large amount of earthmoving, grading, and import of material that soil could unintentionally leave the site. No mitigation measures are listed under the Geology and Soils section of the Initial Study. Therefore, the city recommends the following mitigation measure:

8-5

GS-1 Extensive and proven erosion control measures and Best Management Practices (BMPs) in accordance with the Water Quality Management Plan (WQMP) should be used and maintained throughout all grading and stockpiling activities to prevent soils from leaving the site and being deposited in Rathbun Creek, adjacent roads, or adjacent private property.

Hazards and Hazardous Materials

Section VIII. Hazards and Hazardous Materials, of the Initial Study indicates that no refueling will occur on site during grading and construction activities. If the project is changed to refuel grading and construction equipment on the site, the City recommends that the following mitigation measures be implemented to avoid accidental on-site or off-site contamination:

HZ-1 An appropriate refueling location should be established on the site which is most distant from Rathbun Creek in order to minimize contamination to the creek in the event of an accidental fuel spill.

8-6

HZ-2 The contractor should follow the guidelines of the WQMP for the creation and use of a refueling containment area. Such a refueling containment area shall contain proven BMPs such as sandbags, impermeable soil covering or liner, and gravel to avoid on-site soil contamination and off-site runoff and contamination.

Hydrology and Water Quality

The Initial Study does not appear to provide information to determine the potential for the project to generate pollutants and allow them to be discharged to adjacent and downstream

8-7

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 Response to Notice of Intent to Adopt a Mitigated Negative Declaration
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receiving waters. Storm water runoff from botanical gardens and zoos have been found to contain high concentrations of organic wastes, fertilizers, pesticides, and soil.²

8-7
 Con't

External regulatory agencies determine the TMDL and NPDES mandates and these are beyond the control of the City of Big Bear Lake. The Nutrient Total Mass Daily Load (TMDL) for Dry Hydrologic Conditions in Big Bear Lake (Nutrient TMDL) restricts the discharge of nutrients by assigning phosphorus Waste Load Allocations (WLAs) for point source discharges and Load Allocations (LAs) for non-point source discharges. Recent communications from the Regional Water Quality Control Board, Santa Ana Region (RWQCB) have emphasized the fact there is no assimilative capacity to accommodate the urban WLA unless internal pollutant loads are reduced by 60%. Although work is ongoing to reduce the lake's internal nutrient load, it is not yet certain that the MS4 discharges will achieve the TMDL WLAs by the December 31, 2015, compliance deadline. The proposed BBAZ project should adhere to the requirements of the MS4 Permit, the WQMP Guidance, and the Nutrient TMDL. Any Waste Discharge Requirements (WDRs) issued to the BBAZ by the RWQCB should ensure that the TMDL compliance efforts are not adversely impacted.

8-8

There is a real possibility that animal urine and particles of fecal material will be contained in the non-storm wash down water and storm water that is collected in the detention basins. The Initial Study does not appear to provide detailed information regarding filtration of the storm water and the non-storm wash down water to provide effective nutrient and bacteria removal given the TMDL constraints. Therefore, the potential for the project to provide substantial sources of polluted runoff cannot be determined with the information provided. The project must determine the pollutants that will potentially generated by the facility, and design and implement BMPs in compliance with the MS4 Permit and the WQMP. However, the Initial Study (Discussion, a., Page 113) states that "BMPs implemented to address pollutant sources generally revolve around educational programs." In addition to educational programs, what are the specific measures that address the stated requirements of the MS4 Permit or the WQMP Guidance? The MS4 Permit (Section II.G.6, Page 30) summarizes the requirements to conduct a process for project evaluation and conditioning as follows:

8-9

"This Order requires project proponents to first consider preventative and conservation techniques (e.g. preserve and protect natural features to the maximum extent practicable) prior to considering mitigative techniques (structural treatment, such as infiltration systems). The mitigative measures should be prioritized with the highest priority for BMPs that remove storm water pollutants and reduce runoff volume, such as infiltration, then other BMPs, such as harvesting and use, evapotranspiration and biotreatment should be considered. To the maximum extent practicable, these LID BMPs must be implemented at the project site. The Regional Board recognizes that site conditions, including site soils, contaminant plumes, high groundwater levels, etc., could limit the applicability of infiltration and other LID BMPs at

² San Diego County Public Works: <http://www.sdcounty.ca.gov/dpw/watersheds/business/botanical.html>

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certain project sites. Where LID BMPs are not feasible at the project site, more traditional, but equally effective control measures should be implemented.”

8-9
 Con't

The Initial Study identifies “enclosure washing waste, hosing down hardscape areas,” which have the potential to generate unauthorized non-stormwater discharges as defined under the MS4 Permit. Businesses under the jurisdiction of the City or County are in violation of the MS4 Permit if such flows are discharged offsite. If these discharges from the BBAZ project flow through basins and into Rathbun Creek, they are likely to contain several pollutants of concern, including nitrogen, phosphorus, and bacteria, despite the treatment processes described in the Initial Study. Due to the Nutrient TMDL for Dry Hydrologic Conditions in Big Bear Lake, the Model WQMP requires the following (Model WQMP, Table 3-4 footnote, Page 25):

“For identified pollutants of concern that are causing an impairment in receiving waters, the Project WQMP shall incorporate LID BMPs that fully retain stormwater, or provide medium or high effectiveness in reducing pollutants prior to release, if on-site retention is infeasible.”

8-10

Therefore, the low-flow outlet basin designs do not appear to meet the full retention requirement or provide the medium or high effectiveness requirement for TMDL pollutants (see Model WQMP, Section 5 and Table 5-5, Page 74) for storm water or non-storm water flows. Although the Initial Study states that the “runoff from the site will be monitored and treated prior to release into Rathbun Creek,” and “water quality will be monitored after storm events,” (IS, page 115) the Initial Study does not appear to provide information to determine if this will be protective of the creek and lake water quality. The Initial Study does not appear to suggest whether any actions would be triggered based on monitoring results.

The Initial Study also states that internal runoff water directed to the basins may be “re-used on site.” There does not appear to be any information in the Initial Study to determine if this reclaimed water will meet regulatory requirements. Any reuse may not be allowed under the terms of the General Permit for Recycled Water Use (2009-0006-DWQ), if there is no treatment of the reclaimed water to meet tertiary treatment standards (e.g. Title 22). This proposed reuse should be defined and applicable regulations should be implemented.

8-11

Approximately 80 percent of the site is located within the flood hazard area of Rathbun Creek. The project proposes to raise the site between 1 and 5 feet above the existing ground service to raise the grade above the flood elevation. The City is concerned about the displacement of floodwaters and the increased concentration and velocity of flows that could result by the placement of fill in the Rathbun Creek floodplain and the construction of perimeter walls. The Hydrology Study³ makes an assumption that all existing natural and manmade drainage structures are capable of conveying the 100-year, 24-hour peak flow. Unfortunately, this is

8-12

³ Appendix G.1 HydrologyReport, Tetra Tech Inc., 9/1/2011; Section 1.3.3.1.4 Stream Routing

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inconsistent with the existing condition of the drainage facilities in the area which lack a contemporary storm drain system, as documented in the Masterplan of Drainage, Rathbun Creek, prepared by Boyle Engineering, May 1989, page 1-12.

8-12
 Con't

The risk of the project increasing or changing the susceptibility to damage from mudflows, to itself or to adjacent structures, does not appear to be adequately described or supported by the Initial Study. The potential of mudflows or debris flows is acknowledged in the Initial Study. The presence of the “island” of fill material has the potential to change the flow path of debris or mudflow events, and could deflect such flows more toward other structures. Debris and mudflow events often occur with surprising speed. The Initial Study does not identify protective measures to mitigated these occurrences.

8-13

Noise

A significant amount of truck trips and grading activities will occur with the site preparation and construction of the BBAZ. The City has successfully implemented the following mitigation measures on similar large construction sites and we recommend that these be incorporated into the project:

N-2 The construction contractor should ensure that all construction equipment, fixed or mobile, is properly operating and tuned-up, and that mufflers are working correctly. All sound-reducing devices on the equipment shall be maintained throughout the construction period.

N-3 The construction contractor shall ensure that all construction equipment, including but not limited to staging areas and stationary equipment, is located so that emitted noise is directed away from the nearest residential buildings.

8-14

N-4 The construction contractor should ensure that stockpiling and vehicle staging areas are located as far away as practical from the nearest residential buildings.

N-5 All property owners within 500-feet of the construction site should be mailed a notice regarding the construction schedule of the proposed project. A sign, legible at a distance of 50-feet shall also be posted at the construction site. All notices and signs should indicate the dates and duration of the construction activities, as well as provide a telephone number where property owners, residents, and business owners can inquire about the construction process and register any complaints.

N-6 A “noise disturbance coordinator” should be established. The noise disturbance coordinator is responsible for responding to any local complaints about construction noise. The noise disturbance coordinator would determine the cause of the noise complaint (e.g. starting too early, bad muffler, etc.) and would be required to implement reasonable measures to resolve the complaint. All notices that are sent to the property owners within 500-feet of the construction

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site and all signs posted at the construction site should list the telephone number for the noise disturbance coordinator.

N-7 Noise generated from construction, maintenance, or demolition activities which is unusually loud, excessive, raucous or disturbing at or beyond the property line of the site on which the activity is occurring is not permitted between the hours of 7:00 p.m. and 7:00 a.m., or on Sundays or National holidays, except as approved by the City of Big Bear Lake Chief Building Official based on a determination that the work to be performed will not have an adverse effect on the public health, safety and welfare, or that the work is necessary to correct a potentially harmful or adverse situation.

8-14
 Con't

Transportation, Traffic, Circulation

The City Engineer is responsible for traffic safety on City streets. The project proposes to use City streets as haul routes for imported fill material to the project site. The City Engineer is also responsible for ensuring compliance with the provisions of the National Pollutant Discharge Elimination System (NPDES) permit program. Because of this, we recommend that the City Engineer review and approve the haul routes to the project site.

8-15

Intersection improvements should be made to clarify turning movements and facilitate the movement of residents to upper Moonridge neighborhoods, skiers to Bear Mountain Ski Resort, and patrons to the zoo's two main parking areas. Intersection improvements should also be made to provide a safe means for pedestrians to cross Moonridge Road after parking their vehicles in the off-site parking lot. In order to offset the impacts generated by the development of the property and operation of the BBAZ, the City recommends that the project should pay Development Impact Fees to the City of Big Bear Lake, pursuant to City Council Resolution No. 2009-16 and City Council Ordinance No. 2009-388. The payment of these Development Impact Fees will offset project impacts to streets, signals and bridges.

8-16

The Initial Study indicates that there will be 35 parking spaces on-site, and 150 paved spaces and 330 unpaved spaces available off-site in Bear Mountain's Rathbun parking lot for use by the BBAZ. The Initial Study also indicates that "adjacent to the site to the south will be an additional 22 spaces in a small parking lot that will be used for employee parking in partnership with the golf course." This area is commonly called the parking lot for the driving range. This driving range parking is actually located on property owned by the City of Big Bear Lake and used by Bear Mountain under a development agreement that allows the property to be used for "golf course purposes." Permanent parking for BBAZ employees is currently not allowed for in the existing development agreement. This may require that the BBAZ and City enter into a new development agreement for this use of this property.

8-17

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The City thanks the Special Districts Department for this opportunity to comment on the Initial Study and Mitigated Negative Declaration and we look forward to successful completion of the project. Please feel free to contact me at jetter@citybigbearlake.com or (909) 866-5831 x 123 if you have any questions regarding this letter.

8-18

Sincerely,

Janice Etter

JANICE ETTER
City Planner

N:\2-Group\Planning\Zoo Relocation 2010-2011\IS-MND Response April 9 2013.doc

Letter 8 City of Big Bear Lake, April 9, 2013

Comment 8-1 The City states that it is an agency with jurisdiction by law under CEQA for the project. Services including streets, water service, sewer service etc, are all provided by the City.

Response: The Big Bear Valley Recreation and Parks Department (BBVRPD) and County Special Districts Department (SDD) are currently working in concert with the City of Big Bear Lake staff for City provided services.

Comment 8-2 The City's primary concerns are the potential to generate pollution laden storm and wash water runoff from the property, the potential to displace floodwaters in Rathbun Creek due to the placement of fill on-site, and the project's increase in traffic at the Moonridge Road/Club View Drive intersection. Other issues of concern are listed separately following this comment.

Response: Response to this comment about pollutant laden storm water is contained in responses to comments 8-7 through 8-13, and response to this comment about traffic is contained in responses to comments 8-15 and 8-16.

Comment 8-3 Aesthetics – BBVRPD should maintain views through the property by the use of open view fencing to the maximum extent possible.

Response: The proposed Big Bear Alpine Zoo is a facility that will consist of a number of uses including, but not limited to animal enclosures. The project will be phased as funding becomes available. The first priority is the animal enclosure areas in order to move the population from the existing facility to the new site. As these plans are developed, BBVRPD will review them with City staff and try to accommodate their concerns. However, the BBVRPD's top priority is to the animals and to the quality of their new home and views can likely not be maintained to the extent that they exist today. In addition, the proposed wall would be developed around the site to also attenuate on-site noise or the existing neighborhood so replacing a portion of the wall with open fencing would defeat the purpose of the wall. There will be some visibility of the trees in Rathbun Creek for passerbys.

Future phases include development new exhibits with themed buildings and of course the administration building and ultimately, the animal hospital. BBVRPD and Special Districts Department will be sensitive to City staff's concern with the understanding that as the project continues to be built views will not be maintained to the extent that they exist today.

Comment 8-4 Air Quality and Odors – Truck trips evaluated in the Initial Study do not take into account trips associated with construction of buildings. Therefore, the City is recommending additional mitigation measures to be adopted in addition to those identified in the Initial Study.

Response: Air Quality impacts associated with the construction activities, including building construction are evaluated on pages 54-58 of the Initial Study and pages 18 and pages 17 – 21 in the Air Quality Assessment (Appendix B). As stated on page

“Building Construction involves the construction of all proposed buildings and exhibits. Simultaneous construction of all buildings in the project will result in the highest construction emission estimates. However, it is more likely that a number of the animal exhibits and the 2,500 square foot restaurant may be constructed in one phase, while the rest of zoo related buildings be constructed in a different phase. Building construction emissions were calculated for the portion of construction with the greatest amount of activity that will result in the highest emissions. CalEEMod assumed that the building construction phase would take approximately 14 months. The asphalt paving and Architectural Coating construction activities discussed below will occur concurrently with the Building Construction.”

So although some buildings may be constructed at a later date, the analysis of air quality was based on the worst case, that is, the greatest amount of construction activity, including truck trips, that will result in the highest emissions.

With regard to the additional mitigation measures requested by the City, these are all measures that can be found in SCAQMD rules that the construction contractors must adhere to in order for the County to be in compliance during construction. In addition, as part of SCAQMD's strategy for the control and reduction in emissions of particulate matter, the District and its contractors must adhere to the requirements of Rule 403, specifically, the Best Available Control Measures for the control of fugitive dust identified in Rule 403 Table 1, during all construction activities from clearing and grubbing to building construction.

Comment 8-5 Geology and Soils – In this comment the City is concerned about the large amount of earthmoving and soil import and has recommended that the BBVRPD use Best Management Practices in accordance with a Water Quality Management Plan to be maintained throughout all grading and stockpiling activities to prevent soil from leaving the site.

Response: The SDD will prepare a construction Stormwater Pollution Prevention Plan (SWPPP) for the project during development of the project's grading plan.

Page 112 of the Draft Initial Study states that any project that disturbs one acre or more is subject to the requirements of the State's *General Permit for Dischargers of Storm Water Associated with Construction Activity* and must obtain coverage under the States *Construction General Permit*. Construction-related water quality issues are discussed in detail on pages 113 through 116 and specifically describe the need for a Stormwater Pollution Prevention Plan

(SWPPP) and examples of Best Management Practices (BMPs) that may be included in the project specific SWPPP.

This section also discusses the water quality regulations and standards that would apply to the operation of the Big Bear Alpine Zoo and specifically the requirement for SDD/BBVRPD to prepare and implement a Water Quality Management Plan (WQMP) that addresses site specific water quality issues and how issues will be adequately addressed to prevent untreated runoff from entering Rathbun Creek. The details of both the SWPPP and WQMP will be worked out in consultation with both City staff and the Regional Water Quality Control Board (Water Board) as plans and construction drawings are being prepared.

Comment 8-6 Hazards and Hazardous Materials – If the project description changes to allow refueling on-site the City recommended a number of mitigation measures to avoid accidental on-site or off-site contamination.

Response: At this point, it is not the intent of SDD or BBVRPD to allow the contractors to refuel their vehicles or equipment on-site. However, because there may be a possibility that this could be necessary, this issue would be addressed in the SWPPP prepared for the grading/construction phase of the project and the SWPPP will include a Spill Prevention and Control Plan.

Comment 8-7 Hydrology and Water Quality – The Initial Study does not appear to address the generation of pollutants and their discharge to adjacent and downstream receiving waters.

Response: The District is aware that both Rathbun Creek and Big Bear Lake are listed as impaired water bodies for various constituents. It is the District's intent to adhere to the TMDL's as noted in the Santa Ana River Basin Plan Amendment (Resolution No. R8-2006-0023) that incorporated a nutrient Total Maximum Daily Load (TMDL) for Big Bear Lake are as follows:

- Total Dissolved Solids 300 mg/l
- Total Inorganic Nitrogen- 0.15 mg/l
- Nitrogen/Nitrates 5.00 mg/l

To ensure that Basin Plan objectives for the lake can be obtained, the District is proposing to separate the animal enclosure wash down flows from storm flows, pre-treat the wash down water, including mechanical screening and nutrient removal, and de-nitrification at a minimum, and dispose of the treated water in the City sewer system. In addition, as part of the District water quality management planning effort, staff intends to employ BMPs for the capture and control of stormwater and snow melt from impervious surfaces such as sidewalks, rooftops and parking areas by treating the “first flush” stormwater (prior to entering the water quality basins).

Waste will be drained from each animal enclosure and piped to a pre-treatment facility where the solids will be removed by screening for disposal at a sanitary landfill. The pre-treatment facility will include de-nitrification of the remaining liquid before it is directed to the sewer system. There will be two pre-treatment facilities, one on each side of the zoo since it is bisected by Rathbun Creek.

For the purposes of the Initial Study evaluation of stormwater and water quality basins, implementation of performance standards described in the guidelines for the preparation and implementation of a site specific Stormwater Pollution Prevention Plan (SWPPP) during construction activities, and a Water Quality Management Plan (WQMP) during the long term operation of the Big Bear Alpine Zoo will provide adequate mitigation for the project because these plans must show through Best Management Practices how the water quality will be maintained on-site and in the creek. There are a number of agencies that will be reviewing these plans because they have permitting authority over the project. These include but are not limited to the Santa Ana Regional Water Quality Control Board (RWQCB), US Army Corps of Engineers (USACE), and the Big Bear Area Regional Wastewater Agency (BBARWA). In addition, the concept of recycling stormwater for use on site is presently impractical and the District no longer intends to pursue using recycled stormwater. Comment 8-8

The proposed project should adhere to the requirements of the County's MS4 Permit, the WQMP Guidance and the Nutrient TMDL set forth by other agencies.

Response: District projects, like any other development project in the County, are subject to the requirements of the MS4 Permit. The District is working closely with the Water Board on Waste Discharge Requirements for the project and will also be preparing the Stormwater Pollution Prevention Plan that outlines the Best Management Practices that will be used during site grading and construction activities to ensure no sediments or pollutants leave the construction site, and the Water Quality Management Plan for the long term control of on-site stormwater, irrigation water, and animal waste management to ensure that any water leaving the site either through the water quality basins or in the sanitary sewer system, meet the water quality standards set for the region.

Comment 8-9 There is a real possibility that wash water and storm water will contain animal waste that is collected in the detention basins. The Initial Study does not provide detailed information regarding filtration of the water entering the basins to provide effective nutrient and bacteria removal given the local TMDL constraints.

Response: Please see response to comment 8-7.

Comment 8-10 Comment states that it appears that the low-flow outlet basin designs do not meet the full retention requirement or provide the medium or high effectiveness requirement for TMDL pollutants for stormwater and non-stormwater flows.

Response: In discussions with the Water Board, the District has determined that the project will maintain separation stormwater from wash down water and, after treatment, discharge the wash down water to the sanitary sewer, while directing the stormwater to the water quality basins where it will be treated prior to release into Rathbun Creek. The District has also been in discussions with the Big Bear Area Regional Wastewater Authority (BBARWA), regarding their requirements for the discharge of the wash down water. Also, please see response to comment 8-7.

Comment 8-11 Will the reclaimed water that could be reused on-site meet the regulatory requirements?

Response: In subsequent discussions with the Water Board, the District has determined that reclaimed water will not be used on site.

Comment 8-12 The City is concerned about the displacement of floodwaters and the increased concentration and velocity of flows that could result by the placement of fill in the Rathbun Creek floodplain and the construction of perimeter walls and that the Hydrology Study prepared for the project is not consistent with the City's Master Plan of Drainage prepared in 1989.

Response: The City Master Plan of Drainage was utilized as a reference document. The project description may not have adequately elaborated on the conceptual plans for Moonridge Road undercrossing improvements. The key issue with drainage is that the undercrossing on Moonridge Road is undersized. The undercrossing will be improved to handle the 100-year storm flows, and thus the debris flows also will be accommodated.

Comment 8-13 The comment states that the potential for mudflows to adversely affect the project site and adjacent sites has not been adequately described or supported in the Initial Study.

Response: With proposed improvements to the undercrossing on Moonridge Road, as noted in response to 8-12, the undercrossing will be improved to handle the 100-year storm flows, and thus the debris flows also will be accommodated.

Comment 8-14 Noise – The City provided additional noise mitigation to be implemented during project construction.

Response: The District has reviewed the conditions identified in this comment and believes that the best approach to controlling noise during construction is to provide each contractor with a list of conditions. This list will be placed on all grading and building plans as notes that must be met by each contractor working on site and it will be the responsibility of the general contractor overseeing the construction to ensure that each contractor abides by these conditions.

A mitigation measure will be added to the Noise Section of the Initial Study and to the Mitigation Monitoring and Reporting Program (MMRP) that identifies these conditions. Please see Section 3 Errata, and Section 4, MMRP for this measure.

Comment 8-15 Transportation, Traffic, Circulation – The City Engineer should review and approve all haul routes to the project site.

Response: The haul route for the delivery of materials and equipment for site preparation, grading and construction will be the responsibility of the main contractors (grading contractor, building contractor), and will provide SDD with plans showing the route that will be used for deliveries as well as the staging/storage area(s) where materials and equipment will be stored. Because the number of streets in this area of the City is limited, the haul route for any of the contractors will likely be similar. However, the depending on the grading/construction phase, the location of the staging/storage area(s) would differ. SDD staff will provide the plans to the City Engineer when available and prior to commencement of grading and/or construction.

Comment 8-16 The City believes that the BBVRPD should pay the City's Development Impact Fees to offset project impacts to streets, signals and bridges

Response: This issue is addressed on pages 148 through 151, culminating with the identification of Mitigation Measure TIA-3 which states "The project will participate in the cost of off-site improvements through payment of Capital Improvement Program (CIP) fees. These fees should be collected and utilized as needed by City of Big Bear Lake to construct the improvements necessary to maintain the required level of services".

Comment 8-17 The City has indicated that the proposed additional 22 spaces on the south side of the site are on property owned by the City and used by Bear Mountain under an existing development agreement. Parking for zoo employees would not be allowed under the existing development agreement. BBVRPD may have to enter into a new DA to use this area.

Response: BBVRPD is aware that this parking area is owned by the City of Big Bear Lake and that a shared parking arrangement will be required, if the BBVRPD ultimately determines that this parking is necessary for the project. However, it does not appear necessary going forward.

Comment 8-18 This comment provided contact information for City staff.

Response: As coordination with City staff is needed, SDD and BBVRPD staff will use the City Planner as the point of contact.

From: Ari Gold [<mailto:arielgold@sbcglobal.net>]
Sent: Tuesday, April 09, 2013 9:56 AM
To: Doug Franklin
Subject: Please forward to Nancy Ferguson

Dear Ms. Ferguson,

I am writing in regards to the planned Big Bear Alpine Zoo project in order to voice my grave concerns about certain aspects of the planning and the impact it will have on my real property. I am the owner of the houses at both 760 Club View Drive and 42775 Peregrine Avenue, Big Bear Lake, CA 92315. My houses sit directly across the street on the southeastern side of the proposed build site and can in fact be seen in the photograph on page 11 of the "Draft Initial Study and Notice of Intent to Adopt a Mitigated Negative Declaration for the Relocation of the Big Bear Alpine Zoo in the City of Big Bear Lake, San Bernardino County, California." I understand that the community has until April 10th to voice said concerns and I would like my concerns to be reviewed and documented. Unfortunately I have been working over 100 hours a week outside of the state of California over the last year which hasn't left me time to send this letter sooner, let alone visit the 3d model located at the current zoo until now. I do feel that the planning committee and the city could have done better about sending out information such as the draft initial study as well as a glossy representation of what the final site will look like to residents directly affected by the build. However, it is my conclusion that by not doing so, this project was simply trying to slide through without any community opposition.

9-1

It should be known that I originally purchased these homes due to the fact that they were located across from undeveloped land with unobstructed views of the surrounding nature. Unfortunately this is going to change. Below I have listed my concerns. I would like to voice these concerns in person and would like to participate in any such community discussions that are organized. I would like to be notified of such meeting henceforth as I have not been notified of any in the past!

9-2

My foremost concern is the on-site parking lot that is planned to be built on Club View Drive. The proposed location of this parking lot will likely be less than 50 feet from my living room and front door. Currently my view is of nature and wildlife but under the current site plan, in the near future I will be staring at 35 or more cars as well as large tour buses all day long. I will lose the mountainscapes and any sort of privacy that I have cherished all these years. I understand that there is always going to be someone who is unhappy with the planning and location of elements within a development project however, I am also aware that often the person that raises the most racket gets heard. I understand that originally the parking lot was going to be located on the Moonridge Drive side of the zoo until those residents made a racket. Consider this letter my racket. I pay the same property taxes, if not more, than residents along Moonridge drive and deserve the same consideration that they were given when they opposed the parking lot on the North side of this project. It is frustrating that even though those homes would be less affected by traffic as their driveways are not located on the Moonridge side of their parcels, their voices were heard first. Yes, the back of their properties will lose their view, as will everyone that owns a home along Club View and Moonridge, but they will not be directly impacted by the parking lot as they try to enter and exit their home.

9-3

If you regard figure 4 of the site plan, you will notate that the entrance to this on-site parking lot is directly across the street from my driveway. Not only will this parking lot increase the traffic flow directly in front of my house it will also cause bottleneaking and stoppage as cars wait to turn into the proposed parking lot. I will be directly affected by this increase in traffic as every time I need to pull in and out of my own driveway I will need to wait for zoo patrons who are trying to enter/exit the parking

9-4

lot or are circling, waiting for the perfect parking spot. In addition, due to the fact that a restaurant is also planned at this new location, the on-site parking lot will serve this restaurant in the evening and night hours perpetuating the increased traffic later into the day and additionally disrupting the quiet of the neighborhood and of my home. Furthermore employees using this parking lot that work night shifts will be coming and going, opening and closing doors, and initiating car alarms (beeps/honks) throughout the night. Club View drive already sees an excessive amount of traffic for a residential neighborhood and the increased traffic incurred by the zoo relocation will just add to the noise, inordinate amount of litter, and extremely dangerous conditions for pedestrians as there are no sidewalks along this road!

9-4
con't

A secondary concern regarding the parking lot is the drop off zone for buses and delivery vehicles. As these buses load and unload passengers they idle releasing massive amounts of carbon dioxide which will waft across the street to my property. Unfortunately, the impact study failed to project, or even acknowledge, the projected CO2 emissions from such vehicles. The Alpine Zoo is supposedly going to be surrounded by a 6'-10' noise barrier wall which inconveniently exclude this parking lot thus allowing all the noise from these idling buses and delivery trucks, and the pollution from these vehicles etc. to carry across to my property. I do not get the the benefit of this 6- 10' noise barrier that all the other residents facing the zoo will get!!!! Subsequently, often with bus passengers also comes a high amount of cigarette smoking. I have frequently observed that as passengers disembark from buses they immediately take a moment to have a cigarette break since they have been cooped up in a non-smoking vehicle for hours. I refuse to have my view, my front yard, and my mountain air, reduced to a smoking patio.

9-5

Lastly, a concern regarding this parking lot is night time lighting. In order to provide a safe, secure parking lot for restaurant guests and night time staff the parking lot will need to be well lit. Consequently any nighttime lighting will ruin the darkness of night and starry view of my property. I foresee these lights shining directly into any of my windows facing the parking lot of which I have many, including bedroom windows. Currently there are no street lamps in this area which makes for a very peaceful nocturnal ambience. This on-site parking lot will destroy any sort of nighttime atmosphere that once existed in this area.

9-6

Ultimately I would like to see this parking lot shifted to another location completely or be used solely as employee parking. There is absolutely no reason that zoo patrons and buses cannot simply park at the Bear Mountain overflow parking lot and easily cross the street via and underground tunnel or via a well designated cross walk as is already notated in the plans. Another reason I am perplexed and frustrated by the poor planning is that I did note that the sound barrier walls of the zoo exclude the on-site parking lot. It would seem a far better idea to include this parking lot inside a sound barrier wall allowing for a setback with some foliage and landscaping to mitigate the noise issues, pollution issues, and unsightliness of a parking lot to the surrounding homes.

9-7

Another concern I have about the Alpine Zoo project is about the construction process, dust and debris, and construction hours. Big Bear is a RESORT community in which I purchased this home as a VACATION home, even renting them out as vacation rentals when I am not there. It is unforeseeable that one could have a relaxing time if construction is noisy, dirty and conducted at early morning hours. It is mentioned in the report that massive cubic footage of soil will be imported to raise the elevation of the site (further blocking any sort of views I once had) and that often there will be piles of dirt stationed on the premises. Unfortunately there is no mention of how the project plans to address the impact of this dust and debris as it pertains to the surrounding homes, especially my homes which are both within 50 feet of the build site. I insist that a construction fence of some sore be erected to contain as much debris as possible from blowing into my property and that the project builder is involved with any sort of exterior home cleaning should it be required. I also insist that this fencing be erected with integrity and concern for the neighbors that are losing any sort of view they once had. I have often seen museums hang

9-8

digitized banners/fencing in front of areas that they are refurbishing to maintain continuity and not burden passersby with the eyesore of construction. I urge this project to do the same.

9-8
con't

My final concern is a decreased valuation of my property. It is guaranteed that the building of this Alpine Zoo directly across from my homes will decrease the value. When I purchased this particular property I did so due to beautiful view of the undeveloped (and protected) land across the street. With this benefit removed the resale value of my home will decline. Additionally, if an eyesore of a noisy parking lot is built directly across from my homes the value will decline monumentally, prohibiting any sort of potential for recouping my purchase price. In fact, now that this development is in the initial stages, if I were to attempt to sell, I would likely be forced into a short sale situation. Much of the funding for this project comes from property taxes and it is extremely frustrating to be paying some of the highest property taxes not only in the nation but in California as well, only to be forcibly impacted at the same time by a severe devaluation of my property caused by the city and county most benefitted from these taxes. In fact, I believe it should be mandatory that SB County offer those residents, of which there are only a few, that are directly impacted by this development a substantial tax credit, property tax reduction or to purchase their properties outright using eminent domain, as reconciliation to this development.

9-9

I am a supporter of the zoo and what it's mission is and understand the need for this in the community however the financial, physical, health and emotional repercussions are personally too great for me to ignore. I am willing to work in conjunction with project developers to find solutions to these issues but I refuse to stand by idly and allow other taxpayers and impacted area residents' concerns to be held in greater value than my own. Please instruct me on how I may contest aspects of this project before groundbreaking occurs. You may contact me via any method listed below.

9-10

Thank you,

Ariel Gold

1914 Echo Park Ave

Los Angeles, CA 90026

310-890-7150 Cell

arielgold@sbcglobal.net

Letter 9 Ari Gold, Resident April 9, 2013

Comment 9-1 Resident owns two houses across the street from the project site and feels that agencies could have done a better job of getting information out to residents directly affected by the project.

Response: As discussed on page 22 of the Initial Study, the BBVRPD has been looking for a new site for the Moonridge Zoo/Big Bear Alpine Zoo, for at least ten years and has studied a number of sites around the valley, including a site adjacent to the Discovery Center on the North Shore. The project site that is the subject of the Initial Study was considered to be the optimal site and approximately two years ago, the Big Bear Valley Recreation and Parks District (BBVRPD) placed a large sign at the intersection of Moonridge Road and Club View Drive that said "Moonridge Animal Park Proposed Future Site". The sign also included a website www.bigbearparks.com, and a phone number, 909-886-9700. The website will take interested parties to the BBVRPD home page where they can go directly to the "zoo page" that has a special page called "Help Build a Zoo". There they can see photographs and a slide presentation of the 3-D model, and download a copy of the *Relocation Master Plan*. Interested parties and concerned residents can access the web site for the latest information on the zoo, or call the BBVRPD directly at the number indicated on the sign.

At the beginning of March 2013, in advance of the publication of the Notice of Intent to Adopt a Mitigated Negative Declaration, BBVRPD added a link to the website to the Notice of Availability that summarized the project, provided the start and end date for public review of the document as well as locations around the valley where someone could go to review the document, and also the contact information to send comments. This notice was placed in the Big Bear Grizzly on March 6 and 13, and was sent to all property owners within a 700-foot radius of the project site (over 400 letters were sent). Finally, BBVRPD held an open house on March 16 to discuss the project with all interested parties. For interested parties who were unable to attend the open house, the Initial Study/Notice of Intent to Adopt a Mitigated Negative Declaration were available for review at the Zoo website, Special Districts' website, and the Big Bear Library.

Comment 9-2 Comment states that the purchase of the houses was specifically made because they were across the street from undeveloped land with unobstructed views.

Additionally, the homeowner has requested to be notified about any future meetings.

Response: The current City General Plan land use and zoning designations for the project site are Commercial Visitor and Open Space (adjacent to Rathbun Creek only) and Commercial Visitor and Public/Open Space (adjacent to Rathbun Creek

only), respectively. Under a scenario where a private party would develop the 10.4 acre site, a development catering to the traveling and visiting public, especially commercial lodging, specialty shopping and eating establishments could be built on the site in the Commercial Visitor portion. In summary, development on both sides of Rathbun Creek could be developed with a hotel and related uses similar to the area along Moonridge Road north of the project site such as the Best Western Big Bear Chateau located near the intersection of Moonridge Road and Moonridge Way. According to the City's development code, maximum building height is 35 to 40 feet depending on proximity to residences. In addition, the development code calls for 20 percent of the total lot to be landscaped and the City encourages the use of trees in landscaping plans because, according to General Plan Goal CD 5 "trees are the most dramatic component of landscaping". Therefore, under existing land use and zoning designations, development of the site would likely result in a project with similar restrictions on public views, and similar traffic and noise impacts.

The BBVRPD will notify the commentor of any future meetings to be held regarding this project.

Comment 9-3 Comment states that the parking lot on Club View will be within 50 feet of the residence and that originally the parking lot was supposed to be on Moonridge Drive and that homes on that side of the site would be less affected by traffic from the project because those driveways do not front on Moonridge Drive so will not be directly affected by the parking lot.

Response: The selection of the site of the on-site parking areas for the zoo was a function of the layout of the new zoo rather than input from local residents. The site is not rectangular and is traversed by Rathbun Creek, which limits how the zoo can be laid out for optimal function of the animal enclosures, open space, maintenance areas, parking, and buildings. The parking lot was designed to provide access to the entrance. Placing the parking lot along Moonridge Road would be inconvenient to visitors who would have to walk a long distance to reach the entrance. The parking lot on Club View Drive will be limited to handicap parking and small shuttle bus drop-offs as needed. Due to comments from residents, the use of this parking lot has been reduced to accommodate disabled parking, and large tour buses and schoolbuses will be directed to the parking lot on Rathbun Lane, north of Moonridge Road.

Comment 9-4 The resident will be directly affected each time she tries to get out of her driveway because of all the traffic and the parking lot.

Response: The existing zoo is open from 10 am to 4 pm weekdays and 10 am to 5 pm on weekends. The hours of operation at the new site are anticipated to be similar with the exception of the restaurant and some occasional night-time events. The restaurant, amphitheater, and meeting room parking will be directed to the parking lot that BBVRPD will be sharing with Bear Mountain. The parking lot

on Club View Drive will be limited to handicap parking and small shuttle bus drop-offs as needed. Therefore, local residents will only be marginally affected by visitors accessing the on-site parking lot.

Comment 9-5 Comment states that noise, from the parking lot at night from restaurant employees and patrons will be excessive. An inordinate amount of litter will be generated in the parking lot and the area will be dangerous for pedestrians because there is no sidewalk.

Response: Noise from the parking lot at night was addressed in the Initial Study Noise Section (Section XII). Again, based on resident comments, the parking lot on Club View Drive will be limited to handicap parking and small shuttle bus drop-offs as needed. As shown in the master plan, the restaurant is to be located toward the front entrance to the site and may be more easily accessed from the parking lot across the street. The parking lot on Club View Drive will be limited to handicap parking and small shuttle bus drop-offs as needed. Therefore, noise from the on-site parking lot is more likely to be incidental to a few vehicles than excessive.

The comment does not provide evidence for the statement that the parking lot will generate an inordinate amount of litter. Litter associated with the zoo would be handled by placing trash containers and recycle containers around the facility including the parking lots to encourage visitors to properly dispose of trash and recyclables.

The comment does not provide evidence for the statement that the area around the parking lot will be dangerous to pedestrians. The on-site parking lot will be accessed via a new left-turn pocket. Vehicles will have to slow down to enter the pocket then wait until on-coming vehicles pass before entering the parking lot. The view from the left-turn pocket will be unobstructed so any driver waiting to enter the parking lot would be able to see pedestrians.

Comment 9-6 Comment states that the parking lot will be used to drop off bus passengers and this will result in increased pollution due to idling buses as well as bus passengers lighting up cigarettes. In addition, why wasn't the noise barrier placed around the site to include the parking lot?

Response: As discussed in the Initial Study project description (page 27), buses will enter the parking lot, drop off passengers, then leave the site to park remotely. However, due to comments from residents, the use of this parking lot has been reduced to handicap parking and drop-off from small shuttle buses. Large tour buses and schoolbuses will be directed to the parking lot on Rathbun Lane, north of Moonridge Road.

The hours of operation for the zoo will be similar to the existing facility: 10 am to 4 pm on weekdays and 10 am to 5 pm on weekends, so use of the onsite

handicap parking would be limited to these times except on occasions when a special event is occurring after hours.

With regard to passengers smoking in the parking lot, the comment does not include any evidence that visitors would be smokers.

The perimeter wall has been designed as a noise barrier for interior noise associated with zoo animals and zoo maintenance to be minimized off site.

Comment 9-7 Comment states that night time lighting will ruin the darkness of night and starry view from the resident's house. The parking lot will destroy the nighttime atmosphere.

Response: As described on page 35 of the Initial Study, the master plan includes a lighting scheme with fixtures that will be shielded and directed downward. The lighting plan must meet the requirements of the County development code (Chapter 83.07) for outdoor lighting in the Mountain Region that lists shielding requirements for lighting. In addition, the County development code Section 83.07.040 (2)(c)(2) states that "public recreational facilities shall not be illuminated unless the facilities are being utilized. The illumination shall be turned off no later than 11:00 p.m. or one hour after the termination of the event and/or use, whichever occurs last." It is the intent of the BBVRPD to utilize the site at night only occasionally if special events are planned.

On regularly scheduled days where no night events are scheduled, the zoo would close at 4 pm on weekdays and at 5 pm on weekends. Employees may stay an additional 2 hours after closure to make sure the site is secure. After that, lighting would be limited to lighting as needed for security.

Comment 9-8 Comment states that the parking lot should be moved to another location or be used only for employee parking. Zoo patrons and buses can park in the Bear Mountain overflow lot.

Response: Due to comments from residents, the use of the parking lot on Club View Drive will be limited to handicap parking and small shuttle bus drop-offs as needed. and large tour buses and schoolbuses will be directed to the parking lot on Rathbun Lane, north of Moonridge Road.

Comment 9-9 Comment states concern regarding dust and debris from construction. A construction fence should be put up around the site and the fence should have banners on it to hide the construction.

Response: During site preparation, grading and construction, construction contractors will be responsible for controlling fugitive dust in accordance with South Coast Air Quality Management District (SCAQMD) rules. Specifically, Rule 403 sets forth the Best Available Control Measures that should be used during project construction. The most effective measure is watering as described in the

discussion of grading and construction impacts in the Air Quality Section (Section III) of the Initial Study. The Initial Study described a program of watering three times per day to control fugitive dust. This includes pre-watering of areas that will be disturbed, watering stockpiles, and watering during actual grading as earthmoving equipment is operating, as well as watering the internal construction roads.

With regard to debris from the site, each construction contractor is responsible for keeping track of material and packaging to minimize debris from leaving the site, and is also responsible for hauling their excess materials off-site. In addition, during the grading and construction phases, solid waste containers will be required on-site.

Additional information about control of dust and debris can be found in the Mitigation Monitoring and Reporting Program that will be adopted with the Mitigated Negative Declaration and can be found in the Final Initial Study/Mitigated Negative Declaration.

Comment 9-10 The resident is a supporter of the zoo and would like to work with BBVRPD to resolve issues.

Response: The Big Bear Valley Recreation and Parks Department (BBVRPD) and County Special Districts Department (SDD) appreciate the support and will work with the residents to resolve issues raised in this letter to the extent feasible. The commentor will continue to receive correspondence from the District including a notice of the public hearing before the Board of Supervisors.

PO Box 36
Big Bear Lake, CA 92315

April 10, 2013

Carrie Hyke, District Planner
County of San Bernardino
Special Districts Department
157 West 5th Street, 2nd Floor
San Bernardino, CA 92415-0450

Subject: Draft Initial Study and Notice of Intent to Adopt a Mitigated Negative Declaration for the Relocation of the Big Bear Alpine Zoo

Dear Ms. Hyke:

First, let me say that I am in favor of relocating the Big Bear Alpine Zoo to the 10.4 acre parcel at the corner of Moonridge Road and Club View Drive.

Second, I have gone through all 1050 pages of the subject document and appendices and am generally in favor of adopting the mitigated negative declaration. That said, I would like to contribute some comments/exceptions to the subject document:

10-1

I. Aesthetics

- a. Not mentioned in the report is that the sound wall in Figure 5b is going to be at least fifteen feet above present grade; significantly blocking vistas to existing homeowners. And the sound wall in Figure 7b follows present grade; not elevated as proposed; which would block existing vistas, also.

10-2

II. Agriculture and Forestry Resources

III. Air Quality

- a. It is not understood as to why snow is discussed here (page 56). But, since metrics of 17 snow days and 193 freeze days was brought up, it should be pointed out that ice is, and will be, a major impediment to guest safety. The two bridges are guaranteed to ice over – and often. Mitigation is contained within Appendix A – paths and bridges can be radiantly heated with recirculating geothermal energy.

10-3

IV. Biological Resources

V. Cultural Resources

VI. Geology and Soils

a. Adverse Effects

- i. Rupture of known earthquake fault:
- ii. Strong seismic ground shaking: There may be at least four errors of fact in the report:
 1. Closest known active fault is not North Frontal Fault Zone. According to CalTech web site, it is the Santa Ana Fault (along the Santa Ana River);
 2. Report says North Frontal is “located approximately 10 miles” from project site. Appendix E.1, Section 8.1, Table 1, says North Frontal is “9.7 kilometers.” Big difference;
 3. Santa Ana Fault is less than 5 kilometers from project site; as opposed to North Frontal’s 9.7 kilometers;

10-4

4. The Santa Ana Fault is capable of generating a temblor of at least magnitude 6.4; as witnessed by several Big Bear Valley residents (and FEMA) in 1992. Epicenter was about 4 kilometers from project site (just over the hill from the Bear Mountain ski area);
5. Appendix F.1, Section 4.1, states the closest fault is Helendale at 8 miles; and
6. Given this, it might be wise to re-think the “Less Than Significant” with no mitigation checkbox. Liquefaction possibilities might preclude having fill dirt five feet deep (six feet, including scraping?). Or at least re-design the sound wall to withstand such a temblor in order to protect employees and guests.

10-4
con't

VII. Greenhouse Gas Emissions

VIII. Hazards and Hazardous Materials

- a. Routine transport, use or disposal
- b. Reasonably foreseeable upset
- c. Existing or proposed school
- d. Government Code
- e. Public airport
- f. Private airstrip
- g. Emergency evacuation plan:
 - i. *Emergency Procedures for the BBAZ* could not be found in Appendix F
 - ii. It is doubtful that the “facility has crates for all animals.” And if they did, how would you get “Stormin’ Norman,” the wood bison, into one? Or the grizzlies? Maybe some *in situ* mitigation, such as strategically placed snow guns hard-hooked to hydrant systems, may be called for.

10-5

IX. Hydrology and Water Quality

- a. Water quality and waste discharge
- b. There appears to be a caveat, in the ALDA report, to recycle outdoor water for re-use outdoors. Therefore, as mitigation, “grey” water infrastructure must be created. Suggest moving the checkbox to the left. (See below).
- c. Flash floods in Rathbun Creek will eat into the imported fill dirt. This will result in siltation of Big Bear Lake. One way to mitigate would be to widen the culvert under Moonridge Road. Or to riprap the banks of the fill. Or both.
- d. Rathbun Creek flooding, by and of itself, is not the problem. The big problem is the Sand Canyon watershed (CM-9, -10 in Appendix G.1) which dumps into Rathbun Creek. Walk along Sand Canyon and look at the reinforcements and repairs of Sand Canyon’s culvert at Moonridge Road and its’ bridge at Teton Drive. Flash floods have overrun Moonridge Road (which is about five feet above the creek bed) and has contributed to a fatality in the recent past (if memory serves). Druthers would be to re-route Sand Canyon to meet Rathbun Creek at the widened culvert (see above). Or have diverter sluices open during flash floods.
- e. Runoff water
- f. Degrade water quality
- g. 100-year flood
- h. “The existing culvert under Moonridge Road was not constructed in the model” in the Tetra Tech report was an eye-opener. So, was the existing culvert included or not in the five feet of fill dirt calculation? And, irrespective of 100-year flood calculations, is five feet sufficient in a moderate or severe El Niño year when Rathbun Creek typically overruns Moonridge Road?

10-6

- X. Land Use and Planning
- XI. Mineral Resources
- XII. Noise / XII. Population and Housing (report has two XII)
- XIII. (none)
- XIV. Public Services
- XV. Recreation
- XVI. Transportation/Traffic
 - a. Conflict with plans
 - b. Congestion management
 - c. Air traffic
 - d. Turning left from Club View to Moonridge is already challenging because of the need to crane neck to the right 135 degrees to look for oncoming traffic that is approaching at 50 mph. As is, there's about two seconds to look right and then left again. Blocking that view with a five-foot berm and a ten-foot sound wall is going to be impossible to make that turn safely.
- XVII. Utilities and Service Systems
 - a. It is not understood as to how the two water treatment basins will fit inside the project boundaries. It is assumed that this project will replicate Irvine Ranch Water District's system of one basin each for primary and secondary treatment; while the basin on the other side of Moonridge Road will be for tertiary treatment. A back-of-the-envelope calculation says each basin must contain roughly 135,000 gallons (or about 0.41 acre-feet) – and that is before adding the requirement to contain 100-year storms. And these basins cannot be too deep, because of leaching into perched water at 8- and 14-feet (from bore holes). It is also not understood as to how this “grey” water will be moved from one side of Rathbun Creek to the other. And how to move the water back up from Moonridge road for re-use as in (IX)(b).
- XVIII. Mandatory Findings of Significance

10-7

10-8

/s/ Celso Morrison
 (714) 330-6450 (cell)

Letter 10 Celso Morrison, Resident April 10, 2013

Comment 10-1 The resident is in favor of the zoo project and is generally in favor of adopting the MND but has some concerns.

Response: The Big Bear Valley Recreation and Parks Department (BBVRPD) and County Special Districts Department (SDD) appreciate the support and will work with the residents to resolve issues raised in this letter to the extent feasible.

Comment 10-2 Aesthetics – The sound wall around the site perimeter will be 15 feet above the present grade and would block existing vistas.

Response: This comment is correct in that the perimeter wall will block views currently available, but only from certain vantage points. As shown in the visual simulations, depending on the viewer's location, a view can be almost wholly blocked as shown in Figure 5b near the proposed entrance to the zoo or 7b across Moonridge Road. Both of these locations are in close proximity to the site to provide a worst case scenario. From other locations at a greater distance from the site, or at an angle from the site so that the viewer is not looking at the site head on, views of the mountains would only be partially blocked, and in some cases, depending on the vantage point of the viewer, would not be blocked at all.

Comment 10-3 Air Quality – Why is snow discussed on page 56 but ice is not? The two bridges will ice over and there is mitigation contained in Appendix A to heat the bridges.

Response: The discussion on page 56 explains the climate in the Big Bear Valley. Snow is a form of precipitation and in the context of the Air Quality analysis, precipitation is an important consideration when evaluating emissions associated with construction and long-term operation of a facility such as the zoo. On the other hand, ice is more a byproduct of precipitation where snow falls and due to air temperature melts enough to become ice, or rain falls then freezes forming ice. The issue of bridges or other pathways becoming icy due to precipitation and weather conditions was generally described on page 15 of the master plan (Appendix A). The radiant heating described in the master plan is not mitigation but rather a design feature of the project that would be implemented to resolve a local weather issue, and is not related to Air Quality.

Comment 10-4 The comment states that there may be errors in the Geotechnical Report prepared for the project.

Response: The Santa Ana Fault is not designated as active on either the State of California or the County of San Bernardino fault hazard maps. This doesn't mean that doesn't exist or that it might not be active, but there is not sufficient evidence or consensus for it to be considered active for regulatory purposes.

We could clarify the basis of the statements in our report and acknowledge the location of the Santa Ana Fault relative to the site.

The correct distance is 9.7 kilometers. This will be corrected in the Initial Study.

Appendix F.1 contains the Phase I Environmental Site Assessment which used the City of Big Bear Lake General Plan EIR completed in 1999. The more recent Geotechnical Investigation Report for the project (2011) was used to summarize existing geologic conditions in the region. This document identified the North Frontal fault zone as the nearest active fault.

The commenter appears to be asserting that the 1992 Big Bear earthquake occurred on the Santa Ana fault. It is not yet been established which fault was the cause. The Big Bear earthquake did not break the surface but occurred on a northeast-trending, left-lateral fault. The Santa Ana Fault is an east-west oriented thrust fault.

It appears that this comment also suggests that fill thickness should be reduced because of liquefaction potential. Properly compacted fill is not generally susceptible to liquefaction. Thicker fills would be expected to reduce surface deformation due to liquefaction. All site features, including sound walls, must be designed with consideration given to the ground motions and settlements indicated in the geotechnical report. This is true regardless of the presence or activity of the Santa Ana Fault.

Comment 10-5 Emergency Evacuation Plan – The plan for the existing zoo was not included in Appendix F. Also, it is doubtful whether all the animals could be crated and moved. There should be some in-situ mitigation proposed.

Response: The emergency excavation plan was inadvertently left out of the appendix and is provided in the Final Initial Study. However, the Initial Study provided a summary of the plan for the existing zoo adequate to determine the significance of the impact.

The discussion provided on emergency evacuation procedures was based on the policies and procedures for the existing Moonridge zoo. A new policies and procedures manual, including emergency evacuation procedures will be prepared for the new Big Bear Alpine Zoo prior to moving the animals to the new facility. All the animals will be moved from the existing zoo to the new zoo, and BBVRPD intends to use a combination of crates, trailers and trucks to get everyone moved. This same procedure can be applied to emergency evacuations as well.

Comment 10-6 This comment includes a number of notes on the hydrology and water quality.

Response: The hydrology and water quality resulting from the development and operation of the zoo must be designed to meet the standards set forth by the State Water Resources Control Board, the Santa Ana Regional Water Quality Control Board, the County of San Bernardino Public Works and Flood Control District, Big Bear Municipal Water District, and the Big Bear Area Regional Wastewater Treatment Agency. Specifically related to Rathbun Creek and the Lake, the District must also consult with the California Department of Fish and Game; and the Army Corps of Engineers. Preliminary and final design of the site plan, grading and drainage plans, water quality management plans, and other related plans and reports will undergo extensive review before construction can begin on the new zoo site.

Comment 10-7 The comment states that the project would result in a reduction in the line of sight for drivers turning left onto Moonridge from Club View.

Response: The new zoo location is at the northerly end of the Moonridge Road at the intersection with Club View Drive. Therefore, existing traffic conditions will be significantly altered by reducing the number of trips to the southerly end of the Moonridge area because visitors will not be driving up to Goldmine Drive. Due to comments from residents, the use of the parking lot on Club View Drive will be limited to handicap parking and small shuttle bus drop-offs as needed. Large tour buses and schoolbuses will be directed to the parking lot on Rathbun Lane, north of Moonridge Road.

A Traffic Impact Analysis was prepared for the project that evaluated the trips associated with the new location, and measures to reduce potential impacts and hazards were identified (see Section XVI of the Initial Study). These measures include modifying the signalized intersection of Stanfield Cutoff and Big Bear Boulevard for improved access by adding turn lanes. A second measure addresses safety and operational improvements that should be incorporated into the design of the new facilities such as:

- Install a flashing beacon at the pedestrian crosswalk connecting the project site with the parking lot north of Moonridge Road to increase crosswalk visibility and safety.
- Conduct an engineering study to determine the need for a traffic control signal at the pedestrian crosswalk.
- Review the sight distance at the pedestrian crosswalk with respect to standard City of Big Bear Lake sight distance standards at the time of preparation of final grading, landscape and street improvement plans.
- Participate in the phased construction of off-site traffic signals through payment of project's fair share of traffic signal mitigation fees.

Implement signing/stripping in conjunction with detailed construction plans for the project site.

Comment 10-8 The commentor is asking for information on how the water quality basins will be designed and operated.

Response: The District is proposing to separate the animal enclosure wash down flows from storm flows, pre-treat the wash down water, including mechanical screening and nutrient removal, and de-nitrification at a minimum, and dispose of the treated water in the City sewer system. In addition, as part of the District's water quality management planning effort, staff intends to employ BMPs for the capture and control of stormwater and snow melt from impervious surfaces such as sidewalks, rooftops and parking areas by treating the "first flush" (prior to entering the water quality basins).

Waste will be drained from each animal enclosure and piped to a pre-treatment facility where the solids will be removed by screening for disposal at a sanitary landfill. The pre-treatment facility will include de-nitrification of the remaining liquid before it is directed to the sewer system. There will be two pre-treatment facilities, one on each side of the zoo since it is bisected by Rathbun Creek.

To Whom It May Concern:

Ref: Alpine Zoo Project

Relocation of this Big Bear Zoo with **parking lot along Club View Drive** will have the highest impact on our property, this will block our view of the golf course and natural habitat, which was the main reason for us to purchase these properties, for that particular location! The worst of all, we shall be facing **an ugly, noisy, parking lot** with much more traffic, noise and smog! This parking lot will be used for employees, visitors, but there will be buses, loading trucks for delivery purposes, etc.....Initial Environmental Studies did not include the CO2 emission on buses, loading trucks, vehicle circulating around to locate parking spaces, etc. Don't forget all vehicles are climbing on a slope, this study is obviously to calm the public so the project can move along. Don't forget my property is across the parking lot!

11-1

11-2

Club View Drive is already known for its high traffic volume, emergency ambulances, trucks loading skiers rushing up and down on Club View throughout the day, besides auto traffic, human trashing all along the road, broken glasses, bottles, cigarette buds, plastic, paper bags, cups, plates, you name it, we have it all! And we home owners have to clean it up! Big Bear don't have any requirement for auto emission. May I ask, why add more traffic burden to this street?

11-3

11-4

According to the master plan, complaints from Moonridge Road residents were obviously heard, the conclusion is to add bus and visitor parking on **Club View Drive as this road already sees heavy traffic and is the least likely to cause new disruption within the community. We got shoved!!!!!!** We need to make this very clear, we have the same right as everybody else, we don't pay less tax than others in Big Bear Lake! We 've smell enough of the emission from those traffic, now with more buses, trucks added right in front of our property, why do we need a house in Big Bear Lake? Why not next to a busy freeway? What's the difference?? I encourage SB Special District to buy our house or relocate us, we are ready to move anytime! I'm sure that would be much cheaper for your Special District than solving this issue!

11-5

There are plenty of space on Moonridge Road not where residential houses are, entire North side next to the sign for the zoo, there are entrances, that could be expanded to an onsite parking area, the whole structure could be shifted southward, why create more traffic on Club View, is it because of saving money? The Official Environmental Impact Studies Report is not completed to save 1 year of project construction expenses, RUSH TO SAVE MONEY, is that the main goal for SB Special District.

11-6

11-7

We need to know what are the remedies to solve this situation and don't shove with excuses! The rest of Big Bear residents would not be of their concern, they are not affected by this Problem, we are! You can contact me at 714-878-9088.

11-8

Betty Cheang

Betty Cheang
5891 Lancefield Dr.
HB CA. 92648

Letter 11 Betty Cheang, Resident no date

Comment 11-1 Comment states that the parking lot on Club View Drive will block residents' views of the golf course and natural habitat.

Response: The parking lot on Club View Drive was proposed in the Initial Study to consist of a paved surface at grade with no wall or other screening. Therefore, existing resident's views of the golf course would be minimally affected by the parking lot. However, the BBVRPD will consider landscaping concepts that will buffer the view of the parking lot from Club View Drive residences. These concepts will be developed during the design phase and will be reviewed with interested residents before a final design is put in place. Views of the project site itself will be blocked by the proposed perimeter wall around the site. The Big Bear Valley Recreation and Parks District (BBVRPD) and Special Districts Department (SDD) acknowledge that developing the site with the new zoo will change the existing conditions of the site from vacant land with grasses on the upland areas and willows along Rathbun Creek, however, with the exception of the Rathbun Creek corridor which is designated as Open Space by the City of Big Bear Lake, the site is designated for Visitor Commercial uses.

Under a scenario where a private party would develop the 10.4 acre site, a development catering to the traveling and visiting public, especially commercial lodging, specialty shopping and eating establishments could be built on the site in the CV portion. Thus it is likely that development of the site (outside the Rathbun Creek corridor) could be developed with a hotel and related uses, similar to the area along Moonridge Road north of the project site, such as the Best Western Big Bear Chateau located near the intersection of Moonridge Road and Moonridge Way.

According to the City's development code, the maximum building height is 35 to 40 feet depending on proximity to residences. In addition, the development code calls for 20 percent of the total lot to be landscaped and the City encourages the use of trees in landscaping plans because, according to General Plan Goal CD 5 "trees are the most dramatic component of landscaping". Therefore, under existing land use and zoning designations, development of the site would likely result in a project with similar restrictions on residents' views, and similar traffic and noise impacts.

Comment 11-2 Comment states that the new parking lot will contribute traffic, noise and smog and asserts that the Initial Study did not include the CO₂ emissions on busses, loading trucks, vehicle circulation etc.

Response: The Initial Study included a section on Air Quality which was based on an Air Quality Assessment (Appendix B) that specifically looked at both construction and operation of the new zoo. The Air Quality Assessment took into account all elements of the proposed zoo including traffic (a mix of passenger cars,

busses and trucks), the configuration of the project site with regard to parking areas and the makeup of the parking lots, and construction emissions from vehicles and equipment. A summary of the Air Quality Assessment is included in Section III of the Initial Study.

Comment 11-3 Comment states that Club View already has high traffic volumes and the people generate litter along the roadway that residents have to pick up.

Response: Litter associated with the zoo would be handled by placing trash containers and recycle containers around the facility including the parking lots to encourage visitors to properly dispose of trash and recyclables.

Comment 11-4 Comment states that Big Bear does not have any requirement for auto emissions and how can the project add more traffic to Club View.

Response: The comment is correct that the City of Big Bear Lake does not have any requirements for auto emissions. This is because air quality and emissions of pollutants are regional issues that are the responsibility of the South Coast Air Quality Management District.

There is currently traffic related to the existing zoo using both Club View Drive and Moonridge Road. The new location would alleviate some of the existing traffic on these local roads by placing the zoo on the northerly side of the Moonridge area at the intersection, rather than where it is currently located at the southerly end of the Moonridge area near the ski area. Visitors to the new site would use or be dropped off at the Bear Mountain overflow parking lot, with the the parking lot on-site reserved for handicap parking, but visitors would no longer be using Club View Drive to access the old zoo site, and thus, zoo-related traffic on that street driving south would not continue further than the on-site parking lot.

Comment 11-5 Comment states that the parking lot and heavy traffic were moved from the Moonridge Road side of the site to the Club View side as a result of residents' complaints. Homeowner would like SDD to buy her house and relocate her family.

Response: The selection of the site of the on-site parking areas for the zoo was a function of the layout of the new zoo and not necessarily a response to input from local residents. The site is not rectangular and is traversed by Rathbun Creek, which limits how the zoo can be laid out for optimal function of the animal enclosures, open space, maintenance areas, parking, and buildings. The parking lot was designed to provide the closest access to the entrance. Due to comments from residents, the use of the parking lot on Club View Drive will be limited to handicap parking and small shuttle bus drop-offs as needed. Large tour buses and schoolbuses will be directed to the parking lot on Rathbun Lane, north of Moonridge Road.

Comment 11-6 Comment states that the whole project should be shifted southward on Moonridge Road away from houses so as not to create traffic on Club View.

Response: The project site consists of three discrete parcels that have been purchased by the BBVRPD. Moving the project southward would place it on the golf course, property that the BBVRPD does not own, and that is already developed for another use.

Comment 11-7 Comment states that the environmental impact studies report is not completed and that is being done to save money (one year of construction expenses) and that the main goal of SDD is to save money.

Response: The BBVRPD has prepared a number of special studies for the project including, but not limited to an Air Quality Assessment, a Noise Assessment, and a Traffic Impact Analysis. The technical appendices to the Initial Study include 22 separate studies, reports, or letters from agencies that were used in the preparation of the Initial Study. This effort began in 2009 and was not completed until the beginning of 2013 a period of over three years. Based on the findings of the experts who studied the project, the BBVRPD determined that an Initial Study leading to the adoption of a Mitigated Negative Declaration was the appropriate environmental document to prepare for the project. This effort is being done well in advance of any construction, therefore, the preparation of the IS/MND and the construction of the zoo are two separate and distinct costs and one is not necessarily related to the other

Comment 11-8 Comment states that remedies to solve the situation need to be known. The rest of Big Bear are not affected like the local residents.

Response: The Initial Study and related technical reports were prepared and released for public review in order to allow the public an opportunity to review and comment on the project. Remedies to resolve environmental issues that may arise with development of the project were included in the Initial Study and include such design features as a perimeter wall that provides both safety and sound buffering between the animals and local residents, roadway intersection improvements, and water quality improvements.

From: Judi Oakes
To: Hyke, Carrie
Subject: Moonridge Zoo
Date: Monday, April 08, 2013 4:17:59 PM

Carrie Hyke
 District Planner, Special Districts Department
 157 West Fifth Street, 2nd Floor,
 San Bernardino, CA
 92415-0450.

This is to inform you that I object to the Big Bear Zoo being relocated to the new proposed site at the corner of Moonridge and Club View. I believe that the elimination of environmental impact report is nothing more then an attempt to mask the problems which will arise when the new rescue zoo is placed in the center of a residential area. | 12-1

Attempting to re-zone the subject property without a completed environmental impact report is also nothing more then a an attempt to hide and fraudulently misrepresent the negative impact the rescue zoo will have on the residents of Moonridge and on nearby property values. | 12-2

The current zoo is a public nuisance subjecting it's existing neighbors to noxious odors, traffic hazards, late night and early morning noises plus overcrowding. | 12-3

Zoo supporters and officials in the various levels of city and county government claim many of the issues will disappear when the "new larger zoo" is built. They are attempting to mislead the public and city officials by not making a full and complete disclosure of the issues. | 12-4

Some of the issues are:

1. Lack of funds to complete the new zoo as represented in a timely fashion. | 12-5
2. Safeguards to prevent overcrowding of the new zoo. | 12-6
3. A night and early morning noise abatement plan (wolves howling all night within yards of residences). | 12-7
4. Flood control problems for property owners adjacent to Rathburn creek after the zoo site's topography has been altered. | 12-8
5. Adverse impact from automobile and foot traffic for the nearby residences. | 12-9
6. The overly tall, unsafe (to pedestrians and automobiles) exterior perimeter wall proposed by the zoo. | 12-10
7. Increased insects, ie. rodents, flies, and other pest that will plague the area. | 12-11
8. Noxious odors from animal feces. | 12-12

Regards,
 Richard T. Oakes

Letter 12 Richard Oakes, April 8, 2013

The same letter was also submitted by Michael Barnett, William and Lois Berger, and Patricia and Bill King.

Comment 12-1 Comment states that not preparing an EIR is a way for the BBVRPD to mask the problems that will arise from relocating the zoo to the proposed site.

Response: The comment does not identify any specific adverse environmental effects that the commentor believes have not been addressed.

The purpose of any environmental document under the California Environmental Quality Act (CEQA) is to disclose the potential environmental effects of a proposed project to responsible and trustee agencies that have permitting or approval authority over the project, and to give the public an opportunity to weigh in with their concerns. Whether the environmental document is an Initial Study/Mitigated Negative Declaration (IS/MND) or an Environmental Impact Report (EIR) depends on the findings of a series of technical reports that are prepared for a project as well as the findings of the Initial Study. The Initial Study identified a number of issues that require resolution prior to construction of the new zoo, including but not limited to, air emissions associated with grading and construction, water quality related to site development and the potential for pollutants to enter Rathbun Creek, and increase traffic along Moonridge Road and Club View Drive.

Comment 12-2 Comment states that attempting to re-zone the property without an EIR is an attempt to hide and misrepresent the negative impacts of the project on local residents and their property values.

Response: The Big Bear Valley Recreation and Park District (BBVRPD) and Special Districts Department (SDD) have not requested a zone change for the property. Under California law, a County is allowed to purchase and develop a property without requesting that a City's general plan or zoning designation be changed (California Government Code Sections 53090(a)(b) and 53091(a)).

However, in an effort to provide full disclosure, the Initial Study included an analysis of the proposed zoo if it were to be developed under the City's general plan and development code. This analysis is included in the Initial Study in Appendix H. Under this scenario, a general plan amendment would be requested to change the site's designation from Commercial Visitor (CV) and Open Space (OS) to Commercial Recreation (CR). The CR designation provides for a "wide range of recreational facilities and services serving a regional market area and providing destination-oriented recreation and entertainment uses for visitors and tourists as well as residents of the Big Bear Valley." One of the typical uses listed for the CR designation is a zoo. Also

listed are supportive commercial uses such as hotels and lodging facilities, markets and eating establishments, and parking lots associated with these uses.

The allowed uses under the CR designation are similar to those allowed under the existing designation of Commercial Visitor (CV). Under a scenario where a private party would develop the 10.4 acre site, a development catering to the traveling and visiting public, especially commercial lodging, specialty shopping and eating establishments could be built on the site in the CV portion. In summary, development on either side of the Rathbun Creek corridor. could be developed with a hotel and related uses similar to the area along Moonridge Road north of the project site such as the Best Western Big Bear Chateau located near the intersection of Moonridge Road and Moonridge Way.

According to the City's development code maximum building height is 35 to 40 feet depending on proximity to residences. In addition, the development code calls for 20 percent of the total lot to be landscaped and the City encourages the use of trees in landscaping plans because, according to General Plan Goal CD 5 "trees are the most dramatic component of landscaping". Therefore, under existing land use and zoning designations, development of the site would likely result in a project with similar restrictions on residents' views, and similar traffic and noise impacts.

With regard to property values, the comment provides no evidence to show that the development of the new Big Bear Alpine Zoo would have an adverse effect on the value of local residential property. Residents in the Big Bear area like residents through southern California have seen a dramatic drop in their property values due to the general downturn in the economy that has been ongoing since 2008. Regionally, there has been an upward trend in property values due to a slowly recovering economy among other factors.

Comment 12-3 Comment states that the existing zoo is a public nuisance generating noxious odors, traffic hazards, late night/early morning noise, and overcrowding.

Response: BBVRPD and SDD both acknowledge the shortcomings of the existing facility located on Goldmine Drive near the Bear Mountain ski operation that was first opened in 1959 and that is located on approximately 2.5 acres. Due to its age and limited size, the zoo has outgrown its current site. The purpose of the proposed project is to relocate and upgrade the existing facilities with state-of-the-art animal enclosures, educational facilities, an animal hospital and other related uses. This will alleviate many of the conditions that were identified in this comment.

With regard to traffic hazards, the new location is at the northerly end of Moonridge Road at the intersection with Club View Drive. Therefore, existing traffic conditions will be significantly altered by reducing the number of trips to

the southerly end of the Moonridge area because visitors will not be driving up to Goldmine Drive. Due to comments from residents, the use of the parking lot on Club View Drive will be limited to handicap parking and small shuttle bus drop-offs as needed. and large tour buses and schoolbuses will be directed to the parking lot on Rathbun Lane, north of Moonridge Road.

A Traffic Impact Analysis was prepared for the project that evaluated the trips associated with the new location, and measures to reduce potential impacts and hazards were identified (see Section XVI of the Initial Study). These measures include modifying the signalized intersection of Stanfield Cutoff and Big Bear Boulevard for improved access by adding turn lanes. A second measure addresses safety and operational improvements that should be incorporated into the design of the new facilities such as:

- Install a flashing beacon at the pedestrian crosswalk connecting the project site with the parking lot north of Moonridge Road to increase crosswalk visibility and safety.
- Conduct an engineering study to determine the need for a traffic control signal at the pedestrian crosswalk.
- Review the sight distance at the pedestrian crosswalk with respect to standard City of Big Bear Lake sight distance standards at the time of preparation of final grading, landscape and street improvement plans.
- Participate in the phased construction of off-site traffic signals through payment of project's fair share of traffic signal mitigation fees.
- Implement signing/stripping in conjunction with detailed construction plans for the project site.

In addition, the BBVRPD will participate in the cost of off-site improvements through payment of Capital Improvement Program (CIP) fees to the City of Big Bear Lake to construct the improvements necessary to maintain the required level of service.

Comment 12-4 Comment states the zoo supporters and government officials are attempting to mislead the public by saying that existing issues will disappear with the new facility.

Response: As discussed in response to comment 12-3, BBVRPD and SDD both acknowledge the shortcomings of the existing facility located on Goldmine Drive near the Bear Mountain ski operation that was first opened in 1959 and that is located on approximately 2.5 acres. Due to its age and limited size, the zoo has outgrown its current site. The purpose of the proposed project is to relocate and upgrade the existing facilities with state-of-the-art animal enclosures, educational facilities, an animal hospital and other related uses. This will alleviate many of the conditions that were identified in this comment.

More specifically, a larger, newer zoo will allow the inhabitants of the existing zoo to be moved to a larger, safer and more healthy environment that will be maintained and operated using the latest best management practices for maintenance of the animal enclosures as well as air quality, water quality, and traffic queuing/parking. The new zoo will be enclosed with a perimeter wall that will be built to reduce sound levels associated with the zoo.

Comment 12-5 Comment states that there is a lack of funds to complete the new zoo.

Response: As described on page 27 in Chapter 2 of the Initial Study, the new zoo will be developed in phases. The main focus of this effort is to move the animals to the new facility and close the existing facility. Phase 1 will include grading and site preparation, and the construction of the facilities required to house all of the animals currently living at the existing zoo. Most of the exhibits will be fully built out prior to moving the animals to their new home, but some species to be housed in the Organic Future zone and the Gold Rush zone will be housed in temporary, non-thematic exhibits similar in size and nature to the existing space they currently inhabit until their new facilities are completed. Other phases or portions of phases will be developed as funds are available.

Funding comes from an appropriation by the County Board of Supervisors from the General Fund, property tax revenues and from fundraising activities of the Friends of the Big Bear Alpine Zoo, a non-profit organization.

Comment 12-6 Comment states that there are no safeguards to prevent overcrowding of the new zoo in the future.

Response: Moving the animals from an existing 54-year old, 2.5-acre site to a 10.4-acre site and into new state-of-the-art enclosures will ensure that animals will be located in the most appropriate enclosures at a size relevant to their needs. In addition, BBVRPD will pursue accreditation with the Association of Zoos and Aquariums (AZA) for the new facility. With accreditation the BBVRPD would be eligible to apply for grants to continue to improve the facilities. Accreditation would also bring greater recognition to the BBAZ and its staff and allow them to interact with other institutions to foster professional development, participate in animal exchanges programs and provide opportunities for collaboration and consultation with other AZA colleagues in the care and housing of the animals.

Comment 12-7 Comment states that the facility needs a nighttime noise abatement program.

Response: Development of the proposed zoo includes a perimeter wall around the 10.4 acre facility that will serve as a sound wall to buffer the noise from the resident animals. According to the Noise Assessment conducted for the project, noise measurements taken at the existing zoo indicated that the resident animals could generate a worst-case noise level of approximately 62.7 dBA at approximately 50 feet during any hour of the day. Based on these distances,

the unmitigated noise levels from the animal exhibits could range between 51 and 59 Leq. For the proposed BBAZ the nearest animal enclosures are estimated to be located approximately 80 to 200 feet from the nearest residences, depending on the location. For comparison purposes, the City's maximum allowed daytime noise levels are 55 dBA and nighttime noise levels are 45 dBA.

The proposed project includes a number of solid walls ranging between 6 feet and 10 feet around the animal exhibits; however, they are not continuous, and therefore are not effective as noise barriers. Because the proposed site plan is at a conceptual stage, more specific noise barrier locations and heights can be determined when precise grading plans are available for the noise engineer's review. The noise engineer provided a mitigation measure that includes recommended noise barrier heights in Table 25 that would reduce zoo noise to less than 44 dBA, which is below the City's maximum nighttime noise level.

Comment 12-8 Comment states that there will be flooding problems on other properties when the site topography is altered.

Response: The key issue with drainage is that the undercrossing on Moonridge Road is undersized. The undercrossing will be improved to handle the 100-year storm flows, and thus the debris flows also will be accommodated.

Comment 12-9 Comment states that there will be an adverse impact from auto traffic and pedestrian traffic for nearby residences.

Response: See response to comment 12-3.

Comment 12-10 Comment states that the perimeter wall presents an unsafe situation for automobiles and pedestrians.

Response: See response to comment 12-3.

Comment 12-11 Comment states that there will be an increase in insects, rodents and other pests.

Response: Daily operations include enclosure cleaning and management of animal waste, which is removed from the enclosures and placed in closed containers. Animal feed is prepared in a kitchen that is maintained to be pest-free.

Comment 12-12 Comment states that there will be noxious odors from animal waste.

Response: Odors on the site will be minimized by good housekeeping methods in the animal enclosures, around the restaurant, and in the public areas. Initial Study Section III, Air Quality, includes a discussion of animal odors associated with the zoo, including a mitigation measure for the preparation

and implementation of an Odor Management Plan (OMP) beginning on page 69 of the Initial Study. The requirements of the OMP are summarized here:

- A list of all potential odor sources in the facility along with a discussion of the propensity for and conditions in which each source could cause an odor nuisance.
- A description of measures used during normal conditions to minimize odors generated by the sources.
- A description of contingency measures to neutralize odors in the case that the standard measures described in item 2 do not effectively control odors.
- A description of a protocol to address odor related complaints from the community.
- A description of a system to log in and address all odor complaints, and retain copies of the complaints for a specific time.
- A description of measures that will be enacted to respond to and resolve repeated complaint situations.
- Annual submittal of the odor complaint log to the County of San Bernardino Department of Environmental Health.

CARRIE HYKE, DISTRICT PLANNER
 COUNTY OF SAN BERNARDINO
 SPECIAL DISTRICTS DEPARTMENT
 157 WEST 5TH STREET, 2ND FLOOR
 SAN BERNARDINO, CA 92415-0450

MARCH 10, 2013

DEAR CARRIE HYKE

I AM SUBMITTING MY COMMENTS ON THE PROPOSED MOONRIDGE ANIMAL PARK, MAP RELOCATION. AS A TEN YEAR RESIDENT OF 43010 MOONRIDGE RD. I AM STRONGLY OPPOSED TO THE RELOCATION OF MAP TO THE CURRENTLY PROPOSED LOCATION. SAID RELOCATION WILL NEGATIVELY EFFECT TRAFFIC FLOW AND TRAFFIC SAFETY. MAP WILL ALSO NEGATIVELY EFFECT THE QUALITY OF LIFE FOR BOTH RESIDENTS AND ZOO ANIMALS.

THE PROPOSED MAP SITE IS ALREADY A HEAVY TRAFFIC AREA DURING SKI SEASON AND DURING SPECIAL EVENTS AND HOLIDAYS.

DURING SKI SEASON MANY VEHICLES PARK IN THE LOTS ON THE NORTH SIDE OF MOONRIDGE, OPPOSITE THE PROPOSED MAP SITE. THE AREA IS LONG WITH BUSES AND LARGE TRUCKS TRANSPORTING SKIERS UP CLUBVIEW DR. TO BEAR MOUNTAIN. MORNING SKIERS DRIVE PAST THE PARKING LOTS UP MOONRIDGE RD. FOR PREFERRED PARKING AT BEAR MOUNTAIN. MANY YOUTHFUL VISITORS TO BEAR MOUNTAIN DRIVE FAST IN THIS AREA CREATING HAZARDOUS SITUATIONS FOR OTHER DRIVERS AND PEDESTRIANS.

13-1

I HAVE OBSERVED SEVERAL DRIVERS LOSE CONTROL OF THEIR VEHICLES WHILE DRIVING UP AND DOWN MOONRIDGE RD. DURING SNOW DAYS AND IN THE RAIN. AS A RETIRED LAW ENFORCEMENT OFFICER I AM VERY CONCERNED WITH THE ADDED TRAFFIC AND PEDESTRIANS TO THIS ALREADY BUSY AREA.

13-1
Cont'

THE PROPOSED MAP RELOCATION SITE COULDED WITH EXISTING TRAFFIC FLOW WILL MOST LIKELY RESULT IN ADDITIONAL TRAFFIC ACCIDENTS AND AN INCREASE IN HAZARDOUS DRIVING CONDITIONS.

RATHBUN CREEK WOULD FLOW THROUGH THE CENTER OF THE MAP SITE. THE CREEK FLOWS HEAVELY DURING SNOW MELT AND RAIN. EROSION AND CONTAMINATION FROM RUN OFF SHOULD ALSO BE OF CONCERN.

13-2

THE BIG BEAR GOLF COURSE WOULD BE LOCATED NEXT TO THE MAP SITE. HAZARDOUS CONDITIONS WOULD EXIST FOR BOTH ANIMALS AND VISITORS DUE TO ERRANT GOLF BALLS LANDING INSIDE THE PROPOSED MAP SITE.

13-3

I REALIZE THERE IS NO GUARANTEE FOR THE EFFECT ORDERS FROM THE MAP WILL HAVE ON RESIDENTS IN THE AREA HOWEVER, I ASK THOSE REVIEWING THE PROPOSED MAP SITE TO PUT YOURSELVES IN OUR SHOES WHEN CONSIDERING THE PROPOSED SITE.

13-4

THERE MUST BE MORE SUITABLE SITES FOR THE ZOO TO MOVE TO IN BIG BEAR LAKE.

13-5

IN SUMMARY, I BELIEVE THAT THE PROPOSED MAP SITE IS NOT IN THE BEST INTEREST OF THE RESIDENTS, VISITORS OR THE ANIMALS.

PLEASE FEEL FREE TO CONTACT ME IN RESPONSE TO THIS LETTER.

Sincerely yours,

Anthony P. Alba AND Carol A. Alba

CONTACT INFORMATION; CELL PHONE 661-8778298
P.O. BOX 130308
BIG BEAR LAKE, CA 92315

13-6

Letter 13 Anthony and Carol Alba, March 10, 2013

Comment 13-1 Comment states that the relocation of the zoo will negatively affect traffic flow and traffic safety in the area and that there is already heavy traffic during ski season and during special events and holidays.

The overflow parking lot is already busy during ski season with skiers parking and being transported on buses and trucks to the ski area south of the site. Skiers that bypass the overflow lot drive very fast creating a hazardous situation for other drivers and pedestrians.

Response: The new location is at the northerly end of Moonridge Road at the intersection with Club View Drive. Therefore, existing traffic conditions will be significantly altered by reducing the number of trips to the southerly end of the Moonridge area because visitors will not be driving up to Goldmine Drive. Due to comments from residents, the use of the parking lot on Club View Drive will be limited to handicap parking and small shuttle bus drop-offs as needed. Large tour buses and schoolbuses will be directed to the parking lot on Rathbun Lane, north of Moonridge Road.

A Traffic Impact Analysis was prepared for the project that evaluated the trips associated with the new location, and measures to reduce potential impacts and hazards were identified (see Section XVI of the Initial Study). These measures include modifying the signalized intersection of Stanfield Cutoff and Big Bear Boulevard for improved access by adding turn lanes. A second measure addresses safety and operational improvements that should be incorporated into the design of the new facilities such as:

- Install a flashing beacon at the pedestrian crosswalk connecting the project site with the parking lot north of Moonridge Road to increase crosswalk visibility and safety.
- Conduct an engineering study to determine the need for a traffic control signal at the pedestrian crosswalk.
- Review the sight distance at the pedestrian crosswalk with respect to standard City of Big Bear Lake sight distance standards at the time of preparation of final grading, landscape and street improvement plans.
- Participate in the phased construction of off-site traffic signals through payment of project's fair share of traffic signal mitigation fees.
- Implement signing/striping in conjunction with detailed construction plans for the project site.

In addition, the BBVRPD will participate in the cost of off-site improvements through payment of Capital Improvement Program (CIP) fees to the City of Big

Bear Lake to construct the improvements necessary to maintain the required level of service.

With regard to overflow parking, the BBVRPD will make improvements to the parking area to provide a more orderly use of the site to accommodate both the ski resort overflow parking and the zoo visitor parking.

Comment 13-2 Comment states that Rathbun Creek will erode and become contaminated from runoff from the site.

Response: The District is required to consult with a number of agencies that permitting authority over the development of the project site as the new zoo location. These include the Regional Water Quality Control Board, California Department of Fish and Game and the US Army Corps of Engineers. As part of the planning and development of the site, the District must prepare and implement a Stormwater Pollution and Prevention Plan (SWPPP) that provides details on how project grading and construction activities will be conducted to minimize impacts to the creek. In addition, the operation of the new zoo requires the implementation of a Water Quality Management Plan that shows how the zoo will control stormwater runoff from the site, and how washdown water from the animal enclosures will be treated and handled prior to leaving the site. With the implementation of Best Management Practices outlined in these two plans and with oversight from the permitting agencies, the zoo can be developed and operated in such a manner as to protect the creek from contamination and erosion.

Comment 13-3 Comment states that errant golf balls from the adjacent course will pose a hazard to animals and visitors.

Response: BBVPRD and SDD have taken the location of the golf course into consideration as part of their due diligence in selecting the project and will consider the golf course as the new zoo is designed in order to protect the resident animals and human visitors.

Comment 13-4 Comment states that odors will be a problem at the new site.

Response: Odors on the site will be minimized by good housekeeping methods in the animal enclosures, around the restaurant, and in the public areas. Initial Study Section III includes a discussion of animal odors associated with the zoo, including a mitigation measure for the preparation and implementation of an Odor Management Plan (OMP) beginning on page 69 of the Initial Study. The requirements of the OMP are summarized here:

- A list of all potential odor sources in the facility along with a discussion of the propensity for and conditions in which each source could cause an odor nuisance.

- A description of measures used during normal conditions to minimize odors generated by the sources.
- A description of contingency measures to neutralize odors in the case that the standard measures described in item 2 do not effectively control odors.
- A description of a protocol to address odor related complaints from the community.
- A description of a system to log in and address all odor complaints, and retain copies of the complaints for a specific time.
- A description of measures that will be enacted to respond to and resolve repeated complaint situations.
- Annual submittal of the odor complaint log to the County of San Bernardino Department of Environmental Health.

Comment 13-5 Comment states that there must be more suitable sites for the zoo to move to in Big Bear Lake.

Response: The BBVRPD and SDD have conducted an extensive search for a new location for over 10 years and have looked at a number of properties around the valley that would meet BBVRPD's needs for a new, larger facility. The proposed site was selected after other sites were studied and opportunities and constraints of each site were considered.

Comment 13-6 Comment states that the proposed zoo site is not in the best interest of the local residents, visitors or animals.

Response: This comment and other comments contained in this letter will be reviewed by the Board of Supervisors in its consideration of the project.

From: [Roger Taff](#)
To: [Hyke, Carrie](#)
Subject: Big Bear Alpine Zoo Relocation Project
Date: Friday, March 08, 2013 10:36:47 AM

Dear Carrie Hyke:

My wife and I recently purchased a cabin in the Moonridge neighborhood of Big Bear Lake located approximately 1/4 mile from the proposed relocation site of Big Bear Alpine Zoo.

We are opposed to this relocation site for the following reasons:

- | | | |
|--|--|------|
| 1. The potential negative traffic impact (in addition to the already busy traffic from the ski area parking area and shuttle). | | 14-1 |
| 2. The potential for foul odors emanating from the zoo animals. | | 14-2 |
| 3. The potential danger of having wild animals amidst a residential area. | | 14-3 |

While we are supporters of the zoo, we believe its current location is more appropriate.

Thank you very much for consideration of our letter.

Sincerely,

Roger Taff and Donna Genett
744 Tehama
Big Bear Lake, California 92315

Letter 14 Roger Taff and Donna Genett, March 8, 2013

Comment 14-1 Comment states that they are opposed to the relocation site because of the potential negative traffic impact.

Response: The new location is at the northerly end of Moonridge Road at the intersection with Club View Drive. Therefore, existing traffic conditions will be significantly altered by reducing the number of trips to the southerly end of the Moonridge area because visitors will not be driving up to Goldmine Drive. Due to comments from residents, the use of the parking lot on Club View Drive will be limited to handicap parking and small shuttle bus drop-offs as needed. Large tour buses and schoolbuses will be directed to the parking lot on Rathbun Lane, north of Moonridge Road.

A Traffic Impact Analysis was prepared for the project that evaluated the trips associated with the new location, and measures to reduce potential impacts and hazards were identified (see Section XVI of the Initial Study). These measures include modifying the signalized intersection of Stanfield Cutoff and Big Bear Boulevard for improved access by adding turn lanes. A second measure addresses safety and operational improvements that should be incorporated into the design of the new facilities such as:

- Install a flashing beacon at the pedestrian crosswalk connecting the project site with the parking lot north of Moonridge Road to increase crosswalk visibility and safety.
- Conduct an engineering study to determine the need for a traffic control signal at the pedestrian crosswalk.
- Review the sight distance at the pedestrian crosswalk with respect to standard City of Big Bear Lake sight distance standards at the time of preparation of final grading, landscape and street improvement plans.
- Participate in the phased construction of off-site traffic signals through payment of project's fair share of traffic signal mitigation fees.
- Implement signing/stripping in conjunction with detailed construction plans for the project site.

In addition, the BBVRPD will participate in the cost of off-site improvements through payment of Capital Improvement Program (CIP) fees to the City of Big Bear Lake to construct the improvements necessary to maintain the required level of service.

Comment 14-2 Comment states that they are opposed to the relocation site because of the potential for foul odors to emanate from the site.

Response: Odors - Odors on the site will be minimized by good housekeeping methods in the animal enclosures, around the restaurant, and in the public areas. Initial

Study Section III includes a discussion of animal odors associated with the zoo, including a mitigation measure for the preparation and implementation of an Odor Management Plan (OMP) beginning on page 69 of the Initial Study. The requirements of the OMP are summarized here:

- A list of all potential odor sources in the facility along with a discussion of the propensity for and conditions in which each source could cause an odor nuisance.
- A description of measures used during normal conditions to minimize odors generated by the sources.
- A description of contingency measures to neutralize odors in the case that the standard measures described in item 2 do not effectively control odors.
- A description of a protocol to address odor related complaints from the community.
- A description of a system to log in and address all odor complaints, and retain copies of the complaints for a specific time.
- A description of measures that will be enacted to respond to and resolve repeated complaint situations.
- Annual submittal of the odor complaint log to the County of San Bernardino Department of Environmental Health.

Comment 14-3 Comment states that there is a potential danger of having wild animals amidst a residential area.

Response: The potential danger of having wild animals in a residential area would be reduced at the zoo relocation site compared to its current location. Both the existing location and the proposed location are within similar residential neighborhoods in the Moonridge area. The difference is that the existing zoo is 54 years old and the new zoo will be built using the latest state-of-the-art animal enclosures within a perimeter wall.

The BBVRPD and SDD have conducted an extensive search for a new location for over 10 years and have looked at a number of properties around the valley that would meet BBVRPD's needs for a new, larger facility. The proposed site was selected after other sites were studied and opportunities and constraints of each site were considered. This search has been done within the public view with numerous outreach efforts by Friends of the Moonridge Zoo, now Friends of the Big Bear Alpine Zoo, and the BBVRPD.

To: Carrie Hyke, District Planner
 From: Alan and Donna Leutloff, Homeowners
 Date: April 11th 2013
 Subject: Big Bear Alpine Zoo Relocation Project

As a homeowner in the Moonridge area (42784 La Placida Ave, Big Bear Lake, CA 92315) we are expressing our complaint about the proposed location of the Big Bear Alpine Zoo. First off, we are very dissatisfied with the way the location was chosen and purchased without consulting any homeowner in the area. The land was just purchased, no input, period. Having been a home owner in the area for the past 14 years, I can attest that the area has suffered extensive flooding on at least 2 occasions while we have lived here. The proposal calls for adding fill dirt which would only increase sediment into Big Bear Lake, and create additional (and more dangerous) flooding in the area around Rathburn Creek and Moonridge Road. In addition, I understand that the trout ponds further down Rathburn Creek (purchased by the city) and could be used as a means of a sediment catchment basin is now to be sold by the city. I also think that the county not conducting an environmental impact statement is simply irresponsible and a means to allow the project to proceed as there were likely concerns that the project really would not pass the environmental impact statement.

15-1

15-2

15-3

15-4

I have also observed Eagles using the trees in the area as a perch for food. (Specifically at the intersection of Club View and La Placida Ave). There are also numerous nest of other predatory birds (Hawks and Merlins) that have been observed in the area. And the area is ripe in wildlife, coyotes, rabbits, ground squirrels, numerous birds etc which will be displaced. Yet there is no concern expressed regarding the impact of the relocation on the existing flora and fauna of the area.

15-5

In addition, I read an article in the Big Bear Grizzly that stated that the current zoo was at it's location long before residential homes were built in the area...and that the residential homes just filled in...so this proposed location should not be of concern. What a ridiculous analogy that was...because now you ARE about to put a zoo in the middle of a residential area! Would it be just ok for the animals in the park to drown during one of these floods, or worse yet escape and possibly cause harm to residents in the neighborhood (like Zanesville, Ohio).

15-6

Finally, I don't think the Alpine Zoo has the funds to build a world class zoo. Much like anything in this economy, I foresee ground being broken, and a half finished blemish on our community.

15-7

We don't need, nor do we the residents want this in our backyard.

15-8

I think the Alpine Zoo should go back to the drawing board, and find another location (like the original North Shore location) and stay out of a residential area. Feel free to call us at 909-584-4260.

15-9

Sincerely,

A handwritten signature in black ink, appearing to read "Alan and Donna", with a long horizontal flourish extending to the right.

Alan and Donna Leutloff

42784 La Placida Ave (PO Box 131009)

Big Bear Lake, CA 92315

Letter 15 Alan and Donna Leutloff, Residents, April 11, 2013

Comment 15-1 Comment states that the location of the new Big Bear Alpine Zoo was chosen without input from any homeowners.

Response: As discussed on page 22 of the Initial Study, the BBVRPD has been looking for a new site for the Moonridge Zoo/Big Bear Alpine Zoo, for at least ten years and has studied a number of sites around the valley, including a site adjacent to the Discovery Center on the North Shore. The project site that is the subject of the Initial Study was considered to be the optimal site and approximately two years ago, the Big Bear Valley Recreation and Parks District (BBVRPD) placed a large sign at the intersection of Moonridge Road and Club View Drive that said "Moonridge Animal Park Proposed Future Site". The sign also included a website www.bigbearparks.com , and a phone number, 909-886-9700. The website will take interested parties to the BBVRPD home page where they can go directly to the "zoo page" that has a special page called "Help Build a Zoo". There they can see photographs and a slide presentation of the 3-D model, and download a copy of the *Relocation Master Plan*. Interested parties and concerned residents can access the web site for the latest information on the zoo, or call the BBVRPD directly at the number indicated on the sign.

At the beginning of March 2013, in advance of the publication of the Notice of Intent to Adopt a Mitigated Negative Declaration, BBVRPD added a link to the website to the Notice of Availability that summarized the project, provided the start and end date for public review of the document as well as locations around the valley where someone could go to review the document, and also the contact information to send comments. This notice was placed in the Big Bear Grizzly on March 6 and 13, and was sent to all property owners within a 700-foot radius of the project site (over 400 letters were sent). Finally, BBVRPD held an open house on March 16 to discuss the project with all interested parties. For interested parties who were unable to attend the open house, the Initial Study/Notice of Intent to Adopt a Mitigated Negative Declaration were available for review at the Zoo website, Special Districts' website, and the Big Bear Library.

Comment 15-2 Comment states that the area has had extensive flooding on at least two occasions in the past 14 years

Response: The District is aware of Rathbun Creek can overflow its banks and cause flooding of adjacent areas including the project site. Because of this condition, the District is proposing to import soil to raise the site out of the flood zone of the creek. The fill will be brought in, spread across the site, and compacted to the project geologist's specifications and in accordance with an approved grading plan. The District also intends to maintain the project site and Rathbun

Creek by controlling runoff from the site both during construction and operation in compliance with regulations administered by a number of permitting agencies including the Regional Water Quality Control Board, California Department of Fish and Wildlife, and the US Army Corps of Engineers all of which have permitting authority over the project as well as being responsible agencies for the water quality of the creek and the lake.

The key issue with drainage is that the undercrossing on Moonridge Road is undersized. The undercrossing will be improved to handle the 100-year storm flows, and thus the debris flows also will be accommodated.

Comment 15-3 Comment states that the trout ponds further down Rathbun Creek is being sold to the City and could be used as means of a sediment catchment basin.

Response: As discussed in response to comment 15-3, the proposed construction and operation of the project will be regulated by a number of permitting agencies that are responsible for the water quality of the creek and the basin. Existing regulations that will govern the construction and operation of the new zoo do not allow sediment to leave the project site, therefore there is no reason for the trout farm to be used as a sediment catchment basin.

Comment 15-4 Comment states that the BBVRPD acted irresponsibly by not preparing an EIS and allow the project to proceed knowing that it would not pass the EIS.

Response: The purpose of any environmental document under the California Environmental Quality Act (CEQA) is to disclose the potential environmental effects of a proposed project to responsible and trustee agencies that have permitting or approval authority over the project, and to give the public an opportunity to weigh in with their concerns. Whether the environmental document is an Initial Study/Mitigated Negative Declaration (IS/MND) or an Environmental Impact Report (EIR) depends on the findings of a series of technical reports that are prepared for a project as well as the findings of the Initial Study. The Initial Study identified a number of issues that require resolution prior to construction of the new zoo, including but not limited to, air emissions associated with grading and construction, water quality related to site development and the potential for pollutants to enter Rathbun Creek, and increase traffic along Moonridge Road and Club View Drive.

The BBVRPD evaluated the opportunities and constraints associated with the proposed relocation of the zoo through a series of technical studies for specific environmental issues and the findings of each of the studies was that the proposed zoo would not create any significant environmental impacts that could not be mitigated to less than significant levels and therefore, the preparation of an Environmental Impact Report was not required.

The BBVRPD provided the draft Initial Study and Notice of Intent to Adopt a Mitigated Negative Declaration to all responsible and trustee agencies for review and comment for a period of 30 days and to the public for a period of 35 days. Notice of the public review period was sent to property owners of residences within a 700-foot radius of the project site.

Finally, the BBVRPD has not yet determined whether the project will proceed and this decision will be made by the Board of Supervisors after they have reviewed the project master plan, environmental documentation, and all comments received on the draft document, both oral and written.

Comment 15-5 Comment states that eagles have been observed using the trees in the area and there are nests of other predatory birds in the area. Wildlife will be displaced but there is no concern expressed regarding the impact of relocation of the zoo on the existing flora and fauna.

Response: Biological resources, including wildlife that may use the site, were discussed in the Initial Study, Section IV, Biological Resources. Several technical reports were prepared and are included in Appendix C of the Initial Study. These reports include studies of rare plants, common wildlife species, special status wildlife species, and a special study on Rathbun Creek. Mitigation measures were identified on page 85 of the Initial Study that include pre-construction surveys for nesting birds and sensitive species. If nesting birds are found, a perimeter buffer must be placed around the nesting area until the birds have fledged or it can be established that nesting has failed. For more information on this issue, please see the Initial Study beginning on page 70, and Appendix C.

Comment 15-6 Comment states that an article in the Big Bear Grizzly stated that the current zoo was at its location for a long time and the homes were built around it so relocating the zoo should not be of concern. Now the zoo will be placed within an existing residential area so the circumstances are different.

Response: The existing zoo has been at the same location since 1959 and has outgrown its usefulness as a zoo site. The existing zoo is located with residences nearby but it also is a neighbor to the Bear Mountain ski resort and the golf course.

The new location will also be near existing residences and the BBVRPD has proposed to enclose the site with a perimeter wall to protect the animals as well as reducing impacts to the neighbors.

As discussed above in response to comment 15-2, the District is aware of Rathbun Creek can overflow its banks and cause flooding of adjacent areas including the project site. Because of this condition, the District is proposing to import soil to raise the site out of the flood zone of the creek. The fill will be brought in, spread across the site, and compacted to the project geologist's

specifications and in accordance with an approved grading plan. The District also intends to maintain the project site and Rathbun Creek by controlling runoff from the site both during construction and operation in compliance with regulations administered by a number of permitting agencies including the Regional Water Quality Control Board, California Department of Fish and Wildlife, and the US Army Corps of Engineers all of which have permitting authority over the project.

Comment 15-7 Comment states that the Alpine Zoo does not have the funds to build a world class zoo.

Response: As described on page 27 in Chapter 2 of the Initial Study, the new zoo will be developed in phases. The main focus of this effort is to move the animals to the new facility and close the existing facility. Phase 1 will include grading and site preparation, and the construction of the facilities required to house all of the animals currently living at the existing zoo. Most of the exhibits will be fully built out prior to moving the animals to their new home, but some species to be housed in the Organic Future zone and the Gold Rush zone will be housed in temporary, non-thematic exhibits similar in size and nature to the existing space they currently inhabit until their new facilities are completed. Other phases or portions of phases will be developed as funds are available.

Funding comes from an appropriation by the County Board of Supervisors from the General Fund, property tax revenues and from fundraising activities of the Friends of the Big Bear Alpine Zoo, a non-profit organization.

Comment 15-8 Comment states that residents do not need or want the zoo in their backyard.

Response: This comment and other comments contained in this letter will be reviewed by the Board of Supervisors in its consideration of the project.

Comment 15-9 Comment states that the BBVRPD should find another location like the original North Shore location, and stay out of a residential area.

Response: The BBVRPD has conducted an extensive search for a new location for over 10 years and has looked at a number of properties around the valley that would meet BBVRPD's needs for a new, larger facility, including a site adjacent to the Forest Service Discovery Center. The proposed site was selected after other sites were studied and opportunities and constraints of each site were considered.

DEPARTMENT OF TRANSPORTATION

DISTRICT 8

PLANNING

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May 10, 2013

Carrie Hyke
County of San Bernardino
Special Districts Department
157 West Fifth Street
San Bernardino, CA 92415-0450

Big Bear Alpine Zoo Relocation Project, 08-SBd-18-PM 50.823

Dear Ms. Hyke,

We have completed our review for the Environmental Impact Reports for the project noted above. The project proposes to relocate the Big Bear Alpine Zoo to 10.14 acres at the southeast corner of Moonridge Rd. and Club View Drive. The zoo is currently located on a 2.5 acre site on Goldmine Drive in the City of Big Bear Lake. The proposed location will be approximately ¼ mile north of the current location.

16-1

As the owner and operator of the State Highway System (SHS), it is our responsibility to coordinate and consult with local jurisdictions when proposed development may impact our facilities. As the responsible agency under the California Environmental Quality Act (CEQA), it is also our responsibility to make recommendations to offset associated impacts with the proposed project. Although the project is under the jurisdiction of the County of San Bernardino to the Project's potential impact to State facilities it is also subject to the policies and regulations that govern the SHS.

16-2

We do not anticipate this project will generate any additional traffic to the SHS. We therefore have no comments at this time.

16-3

If this development proposal is later modified in any way, please forward copies of revised plans as necessary so that we may reevaluate all proposed changes for potential impacts to the SHS.

If you have any questions regarding this letter, please contact Milele Robertson at (909) 383-6908 or myself at (909) 383-4557 for assistance.

Sincerely,

DANIEL KOPULSKY
Office Chief
Community and Regional Planning

"Caltrans improves mobility across California"

Letter 16 Daniel Kopulsky - Caltrans District 8, May 10, 2013

Comment 16-1: This comment provides a general description of the project location.

Response: The comment provides an accurate description of the proposed new location for the zoo.

Comment 16-2 This comment summarizes Caltrans' responsibility for maintain the State Highway System of which Highway 18 is a part, and that the project's potential impacts to State facilities fall under its authority to review and comment on proposed project traffic.

Response: This comment summarizes Caltrans authority to review and comment on the Initial Study (including technical studies) and no response is required.

Comment 16-3 This comment states that Caltrans staff does not anticipate that the project will generate any additional traffic to the State Highway System and therefore have not comments. If modifications to the project are made, Caltrans staff would like to review the revised plans.

Response: Thank you for your comments. The District will keep Caltrans staff informed should the project plans be revised.

From: ednjeanne [<mailto:ednjeanne@charter.net>]
Sent: Wednesday, May 22, 2013 9:17 AM
To: Jim Miller
Cc: karsten33@gmail.com
Subject: Big Bear Alpine Zoo Relocation

Hi Jim

Here are my comments on the Mitigated Negative Declaration for the Big Bear Alpine Zoo Relocation.

1. The wetlands that are part of property where the Zoo is proposed to be relocated needs to be delineated.
- a. When is this going to be done?
 - b. If the wetlands are impacted by project fill material will the mitigation measures be identified at that time?

17-1

Until this is completed we deem the the initial study/ Mitigated Negative Declaration to be incomplete. This is unacceptable.

2. What safeguards are being taken to assure that animal was does not find its way into Rathbun Creek?

17-2

- a. Under normal operating conditions?
- b. Under flood conditions?

3. What are the landscaping plans around the retentions basins? There will no doubt be the loss of some willow habitat as a result of construction. Has there been a determination of how much that might be? Is there any plan to mitigate this loss with willows be planted on the perimeter of the retention basins?

17-3

Ed Wallace
Chair- Big Bear Group Sierra Club

Letter 17 Big Bear Group Sierra Club - Ed Wallace, Chair, May 22, 2013

Comment 17-1 Comment asks when the wetlands will be delineated, and if wetlands are impacted by project fill material will the mitigation measures be identified at that time.

Response: A jurisdictional delineation (JD) was also conducted for the project (November 2012) that identified the area where resources agencies including the Department had jurisdiction. The JD was summarized in the Biological Resources Section of the Initial Study but was inadvertently omitted from the technical appendices. The JD is included in the Final Initial Study. Here is a summary of the discussion of Rathbun Creek and fill material.

Placement of Fill in Rathbun Creek

The proposed project includes the placement of imported soil in order to raise the site out of the flood plain of Rathbun Creek. No soil material will be placed in Rathbun Creek, therefore, the flow of Rathbun Creek will not be diverted or obstructed through the placement of imported fill. The District recognizes that resources agencies also define other project features such as the proposed bridges as "fill". As part of the IS/NOI prepared for the project, Appendix C contains a memo that summarizes potential impacts to up to four locations across Rathbun Creek. The conclusion of the memo is that if the bridges are designed so that the footings are developed outside the jurisdiction of the resources agencies, then there would be no impact to the creek. This will be discussed further with CDFW during consultation on the Streambed Alteration Agreement and will result in a final design of the bridges that meets the conditions of the Agreement.

The perimeter wall, which is a requirement of the American Zoological Association, and the associated sidewalk along the north side of the site, will be designed at the road grade and will not extend down into the creek bed on the north side and thus will not restrict storm flows in the channel or otherwise affect the creek regime. The fencing at the creek crossing on the south side of the project will be designed to propagate the flow through the site, and will also need to be secured. The exact method for allowing the flow through the wall while maintaining security will be determined in the final design stage of the project and will require consultation with CDFW for approval as part of the Streambed Alteration Agreement. The District has concluded that whatever screening or grating is employed will require constant maintenance and inspection to ensure that debris does not obstruct the flow and that any maintenance plan must be part of the Agreement.

Maintenance Activities in Rathbun Creek

According to the Hydrology Study prepared for the proposed project there is a small increase in the peak flow rate of Rathbun Creek related to project

development. The increase is 3, 3, and 1 cfs for the 10-, 25-, and 100-yr, 24-hr design storm events. Therefore, the District is proposing to conduct maintenance activities in Rathbun Creek to accommodate this slight increase in flows. This activity would consist of trimming of invasive, low level brush that would impede storm flows (and potentially cause flooding) if left in place, and removal of debris that might be deposited by storm flows but would not include removal of any willows or other trees in the stream channel. Maintenance would be done by a crew using hand tools and no mechanical equipment would be used. Maintenance would be limited to pre- and post-rainy season only. This maintenance would be accomplished outside of the nesting season to avoid any impacts to nesting birds. It is not the District's intent to remove any willows from the creek.

Comment 17-2 Comment asks what safeguards are being taken to assure that animal waste does not find its way into Rathbun Creek under normal conditions and under flood conditions.

Response: To ensure that Regional Water Quality Control Board's Basin Plan objectives for the lake can be obtained, the District is proposing to separate the animal enclosure wash down flows from storm flows, pre-treat the wash down water, including mechanical screening and nutrient removal, and de-nitrification at a minimum, and dispose of the treated water in the City sewer system. In addition, as part of the District water quality management planning effort, the District intends to employ BMPs for the capture and control of stormwater and snow melt from impervious surfaces such as sidewalks, rooftops and parking areas by treating the "first flush" of stormwater (prior to entering the water quality basins).

Waste will be drained from each animal enclosure and piped to a pre-treatment facility where the solids will be removed by screening for disposal at a sanitary landfill. The pre-treatment facility will include de-nitrification of the remaining liquid before it is directed to the sewer system. There will be two pre-treatment facilities, one on each side of the zoo since it is bisected by Rathbun Creek.

For the purposes of the Initial Study evaluation of stormwater and water quality basins, the implementation of performance standards described in the guidelines for the preparation and implementation of a site specific Stormwater Pollution Prevention Plan (SWPPP) during construction activities, and a Water Quality Management Plan (WQMP) during the long term operation of the Big Bear Alpine Zoo will provide adequate mitigation for the project because these plans must show through Best Management Practices how the water quality will be maintained on-site and in the creek. There are a number of agencies that will be reviewing these plans because they have permitting authority over the project. These include but are not limited to the Santa Ana Regional Water

Quality Control Board (RWQCB), US Army Corps of Engineers (USACE), and the Big Bear Area Regional Wastewater Agency (BBARWA).

Comment 17-3 Comment asks about the landscaping plans around the retentions basins and states that there will no doubt be the loss of some willow habitat as a result of construction and there must be mitigation for the loss of willows. Is there any plan to mitigate this loss with willows be planted on the perimeter of the retention basins?

Response: A landscaping plan has not yet been developed for the proposed project. It is not the District's intent to remove willows from Rathbun Creek and the preliminary grading plan shows that the grading activities will be done outside the treeline. However, during routine maintenance of the creek, some willows may be trimmed. The District is consulting with CDFW on a Streambed Alteration Agreement that would include mitigation for the restoration of segments of Rathbun Creek that may include planting additional willow trees.

September 20, 2013

Carrie Hyke, District Planner
County of San Bernardino
Special Districts Department
157 West 5th Street, 2nd Floor
San Bernardino, CA 92415-0450

By email to: Carrie.Hyke@sdd.sbcounty.gov

Re: Mitigated Negative Declaration, Big Bear Alpine Zoo Relocation, APN's 2328-472-01, 02 and 03

Dear Ms. Hyke,

The San Bernardino Valley Audubon Society ("SBVAS") wishes to express its disappointment with the County's handling of its pledge to write an EIR (now broken) and public notifications (or lack thereof) regarding the Big Bear Alpine Zoo Relocation. We fully support the comments submitted earlier this week by the Friends of Fawnskin and the Center for Biological Diversity.

SBVAS is a nonprofit all-volunteer 501(c)(3) organization that represents some 2000 residents of the Inland Empire, who greatly enjoy the San Bernardino Mountains as one of the most outstanding natural areas of Southern California. Many of our members reside in the mountain communities, and many more observe birds throughout the mountains. We have consistently advocated for the highest standards in safeguarding the natural resources of this unique mountain environment by the most responsible means possible.

In addition to the issues raised in the letter submitted the Friends of Fawnskin and the Center for Biological Diversity, SBVAS would like to point out that the project site includes riparian habitat with willow trees that have in the past been used for nesting by the Endangered Southwest Willow Flycatcher. That fact alone should justify an EIR.

18-1

It is extremely distressing to have a public agency recognize the need for an EIR, pledge to make one, and then violate that pledge without notifying the groups most concerned. The County is also well aware (or should be) of SBVAS's interest in the mountain habitat, and this project specifically, because we have filed comments on this project going back to November 24, 2008. To only find out about such a change and broken pledge from third parties after the fact is a clear indication that the County did not perform due diligence in notifying parties already on record as being concerned.

18-2

We urge that a full Environmental Impact Report be conducted which includes all the analysis and data collection that is missing from the current Initial Study/Mitigated Negative Declaration.

18-3

Sincerely,



Drew Feldmann
Conservation Chair

Letter 18 San Bernardino Valley Audubon Society, September 20, 2013

Comment 18-1 Comment states that the project site includes riparian habitat with willow trees that have in the past been used for nesting by the endangered southwest willow flycatcher.

Response The Biological Resources section of the Initial Study was based on a series of assessments and memos prepared by biologists and regulatory specialists. Several studies were prepared for the proposed relocation of the zoo, including a jurisdictional delineation that focused on Rathbun Creek and the willows. The memo addressing the proposed bridges across Rathbun Creek (see Appendix C.4) concluded that if the bridges are designed so that the footings are developed outside the jurisdiction of the resources agencies, then there would be no impact to the creek. This will be discussed further with the California Department of Fish and Wildlife during consultation on the Streambed Alteration Agreement and will result in a final design of the bridges that meets the conditions of the Agreement.

In addition, as described on page 87 of the Initial Study, the County would perform periodic routine maintenance in Rathbun Creek by trimming brush (invasive species) and clearing debris that accumulates in the creek after a major storm event or snow melt. This activity would not involve the removal of any willows and would be conducted outside the nesting season to avoid impacts to nesting birds.

Comment 18-2 Comment states that the Special Districts Department had indicated previously that an EIR would be prepared, then prepared an Initial Study in support of a Mitigated Negative Declaration and that parties who were on a list as being concerned were not notified.

Response The Special Districts Department (SDD), including the Big Bear Valley Recreation and Parks District (BBVRPD) have been planning the relocation of the zoo for a number of years and have studied a number of sites before choosing the proposed location evaluated in the Initial study. During this process, SDD and BBVRPD agreed that if the proposed project at this location would result in significant unavoidable impacts on the environment, an EIR would be prepared. When selecting this site to relocate the zoo, a number of special studies were prepared including but not limited to a habitat assessment and focused surveys for SWWF, traffic impact analysis, land use study, drainage study, air quality assessment and a noise study. After reviewing all of these studies, SDD and BBVRPD determined that impacts associated with the relocation of the zoo could be mitigated to less than significant levels and proposed to adopt a Mitigated Negative Declaration.

Staff members conducting the mailout were unaware of any previous commitments of a mailing list, but in any case, the project was advertised on site and in local media.

Comment 18-3 Comment states that a full EIR should be prepared.

Response See Response 18-2 above. The Board of Supervisors will consider the proposed project and all related environmental studies in making a determination about the proposed relocation of the zoo, including all comments received on the Initial Study/MND document.



FRIENDS OF FAWNSKIN

**Protecting Big Bear Valley
through Environmental Education &
Oversight**

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415-436-9682

13 September 2013

Carrie Hyke

District Planner

County of San Bernardino Special Districts Department

157 West 5th Street, 2nd Floor

San Bernardino, CA 92415-0450

Via email: Carrie.Hyke@sdd.sbcounty.gov

Re: Initial Study/Mitigated Negative Declaration
Big Bear Alpine Zoo Relocation
747 to 787 Club View Drive, Big Bear Lake, California
APN's 2328-472-01, 02 and 03

Dear Ms. Hyke,

This letter is in response to the Notice of Intent to Adopt a Mitigated Negative Declaration, dated March 1, 2013.

Friends of Fawnskin (FOF) represents a membership of over 400 local residents and homeowners of Fawnskin and the Big Bear Valley. Most residents and visitors have chosen to come to Big Bear Valley primarily because of the current character of the area. FOF works to preserve and protect the unique environmental surroundings of Big Bear Valley. Our goals are to assure that the public is kept informed on issues that may impact their surroundings and that they have the proper opportunity to participate in the decision-making process; to educate the governing agencies regarding the concerns of local residents and visitors; and to make certain that environmental laws that are in place to protect all of us are followed.

The Center for Biological Diversity ("Center") is a national non-profit public interest organization with over 40,000 active members and hundreds of thousands of registered online activists throughout the United States, many of whom live and reside in the Big

Bear Lake area. The Center is incorporated in San Francisco and has offices in San Francisco, Los Angeles, and Joshua Tree, California. The Center and its members are dedicated to protecting diverse native species and habitats through science, policy, education, and environmental law.

It must first be noted that even though both FOF and the Center have commented on previously proposed zoo relocation projects, have been on the County's list as interested parties regarding this project and specifically requested to receive notifications of any actions on this project, we were not sent the Initial Study/MND document nor notified through a Notice of Intent or any other method of its availability. We only learned of the document's existence through a local newspaper article published after the due date for public comments to be received.

More than a year ago, FOF met with County Park & Recreation staff in Big Bear to discuss the environmental analysis process and issues for this proposed project. We were assured at that time that a full Environmental Impact Report would be prepared.

This proposed relocation site is extremely delicate in nature due to the existing rare and critical habitats on the site. This proposed relocation site contains Montane Meadow wetlands (a rare habitat), riparian habitat and critical habitat for the Southwestern Willow Flycatcher, a federally-listed endangered species. We are emphatically dismayed and concerned that no Environmental Impact Report is being prepared and instead, a short-cut through the process is being taken by the use of a Mitigated Negative Declaration. Considering the significance of the potential impacts from this proposed project, this shortening and abbreviation of the process is wholly inadequate.

After reviewing the Initial Study and Mitigated Negative Declaration and associated analyses, we have concluded that the analysis is seriously insufficient to fully disclose and evaluate the potential impacts of this proposed project. Several of the studies were done at improper time periods, the actual potential impacts often have been omitted or severely downplayed, and recommendations of mitigations made in the detailed studies were not carried forward into the resulting MND mitigations. In addition, in some areas of evaluation, the significance of the potential impacts of this project were evaluated based on the assumptions that stated project designs would be in place, while, in fact, there is nothing to require those designs be adhered to unless they are required through mitigations. Since the evaluation already assumed those criteria, it evaluated the impact as less than significant and required no mitigation. This leaves the design criteria by which the evaluations were made completely open to modification at a later date. This method of evaluation without actually requiring the mitigations that were assumed is completely contrary to the purpose and definition of this evaluation process as required by the California Environmental Quality Act (CEQA).

A full Environmental Impact Report must be done with all evaluations based on comparison to the currently existing site in order to properly analyze and report to the public all of the potentially significant impacts.

19-1

The following points summarize the many areas that have been insufficiently or inaccurately analyzed, making this Initial Study/Mitigated Negative Declaration inadequate for making a decision regarding the viability of this project as proposed and the actual significance of the potential impacts.

--Even though the site has habitat appropriate to several listed, rare or special status plant species (Appendix C.1), the plant surveys and resulting analysis of the data are inadequate to determine the presence or absence of these plants. New, appropriate-timed and conducted plant surveys must be required.

**California Department of Fish and Wildlife (CDFW) protocols require that surveys in the field be conducted as follows:

“at the time of year when species are both evident and identifiable. Usually this is during flowering or fruiting. Space visits throughout the growing season to accurately determine what plants exist on site. Many times this may involve multiple visits to the same site (e.g. in early, mid, and late-season for flowering plants) to capture the floristic diversity at a level necessary to determine if special status plants are present. The timing and number of visits are determined by geographic location, the natural communities present, and the weather patterns of the year(s) in which the surveys are conducted.”

But the plant surveys for these analyses were done a month or two later than the optimal survey window for these species at this locale and surveys were not repeated in appropriate timeframes for the plants being surveyed.

**CDFW protocols further state:

“The failure to locate a known special status plant occurrence during one field season does not constitute evidence that this plant occurrence no longer exists at this location, particularly if adverse conditions are present. For example, surveys over a number of years may be necessary if the species is an annual plant having a persistent, long-lived seed bank and is known not to germinate every year. Visits to the site in more than one year increase the likelihood of detection of a special status plant especially if conditions change. To further substantiate negative findings for a known occurrence, a visit to a nearby reference site may ensure that the timing of the survey was appropriate.”

The plants surveys were done at the same incorrect time period for only two consecutive years, both in drought conditions. In addition, there is no record of reference populations for each of the rare plants being checked at the time of the survey to determine phenological stage and detectability.

--As noted in the Biological Resources Assessment (Appendix C.1), the site contains critical habitat for the Southwestern Willow Flycatcher, a federally-listed endangered species. The assessment notes that the proposed project could significantly impact the habitat of this species by breaking up the contiguous habitat into several smaller

19-2

19-3

sections, which would decrease the available habitat for this endangered species, strongly suggesting a significant impact to the species.

19-3
con't

--The Biological Resources assessment (Appendix C.1) recommends mitigations for these impacts. The MND, however, does not include all of the recommended mitigations and additionally does not require habitat replacement at sufficient levels to make restitution for the level of potential impacts. The mitigations listed are wholly incomplete and inadequate to meet the necessary criteria for protecting this species and must be reevaluated and redone.

--Even though the entire section of willows in the riparian habitat of this site constitute critical habitat for the federally-listed endangered species Southwestern Willow Flycatcher, the Bridge Memo (Appendix C.4), which discusses removing sections of those willows at several locations to install bridges across the creek, completely fails to even mention this area as critical habitat, thus grossly understating the significance of the potential impact of these modifications. As a result of this seemingly purposeful omission of key information, this analysis fails to offer mitigation measures to reduce potentially significant impacts. In addition, the conclusion in this analysis suggests that the modification could be designed to avoid a Section 404 permit. Since this would result in also avoiding a U.S. Fish and Wildlife consultation, the agency responsible for monitoring impacts to federally listed species, this conclusion seems to be purposely attempting to avoid reporting to the public the full significance of the impacts of this proposed project or to be held accountable for said impacts.

19-4

--The Traffic Impact Analysis (Appendix J.1) shows that all the traffic surveys for this impact evaluation were conducted in late September and early October, which is the absolutely lowest traffic density time period for this area! This basically amounts to not measuring the traffic at all. Due to high tourist volumes during the summer vacation season (May through August) and the winter ski season (November/December through April), traffic surveys must also be conducted during these already high traffic periods to fully evaluate the significance of the potential impacts. This is especially true since the relocation site is in direct line with the ski traffic going to Bear Mountain Ski Resort, which already creates major traffic congestion on these same roads.

19-5

--The entire Aesthetics analysis is invalid and inadequate in determining the significance of potential impacts of this proposed project. In an attempt to grossly underplay the significance of the potential impacts on the aesthetics of the area, the evaluation of the impacts is done on the basis that the walls around the project would be made to blend in some measure with the surrounding area and on that basis determines that the impacts to aesthetics are less than significant. CEQA requires that impacts be measured against the currently existing conditions, whereas this analysis only compares what worse things might be done with what the currently planned project would look like. It does not in any way compare the currently planned project with the existing conditions, in which case it would have to determine the impacts to the current mountain vistas would indeed be significant. At the very least, the plans for how the exterior walls would be designed must be included as mitigation measures rather than

19-6

the standard to measure against. As the MND now stands with none of these measures as required mitigation, the project could at any time completely change the exterior view plans and there would be nothing to hold the project accountable for the resulting changes in significance of the impacts. This entire Aesthetics analysis and impact evaluation must be redone in accordance with CEQA guidelines.

19-6
con't

--The zoo parking area is the same area as the Bear Mountain Ski Resort parking area, yet insufficient analysis has been done to determine whether this parking would be adequate to hold cars for both venues during peak usage times of the ski season.

19-7

--The plans for handling snow removal (page 25) do not discuss the impact of the changes in snow removal on the hydrology of the riparian area or Rathbun Creek (a jurisdictional stream) flow. The following questions at a minimum must be addressed in the analysis: Would these changes reduce the snow melt that flows into the stream? Would the removed snow be left on site or removed to another location? Would the snow removal process in any way contaminate the snow melt runoff into the riparian area or creek?

19-8

--The Initial Study/MND states that nuisance water would be treated before being released into the existing natural stream and that the treated water would be tested following storm events. The analysis fails to discuss testing water between storm events and fails to discuss contingency back-up plans for situations where the tests show insufficient water treatment or in cases when the treatment system breaks down. Considering the extremely delicate nature of this wetlands area and of the Rathbun Creek habitats, and especially since Rathbun Creek runs directly into Big Bear Lake, this analysis is inadequate to determine the actual significance of the potential impacts or to properly mitigate for these impacts.

19-9

--The plans include for the Enclosure Wash Water (pg. 26), containing animal waste, to be discharged into the creek. There is no discussion of treatment specifically for possible animal diseases or of the significance of potential impacts to wildlife should any of these diseases be released into the surrounding area. There are also no mitigations nor contingency plans for this possible occurrence.

--Page 3 of the Initial Study/MND states that the animal park currently holds 85 species. Page 23 of the document states that the relocation will include 35 exhibits to hold 60 species. There is no discussion regarding the additional species that are located at the existing facilities or how those will be handled or housed.

19-10

--The Night Lighting discussion (pages 23, 25, and 76) claims they will use Night Sky Compliant fixtures; but with the expanded size and parking lots, it will definitely be brighter throughout the area than with current conditions. There is no discussion of the significant impact this additional brightness will have on the species in the area, on the existing dark skies or on the aesthetics. There is no analysis or mention of the significance of the potential impact to the night-time roosting of bald eagles within a mile of the relocation site (referred to on page 76.)

19-11

--The "Green Approach" (pg 26) is very vague and unspecified, using such phrases as "as often as possible," which is not commitment at all." There must be discussion of specific steps that will be taken in this approach, e.g., LEED certification of the building overall, or use of specific LEED/green building elements, like low-flow toilets and fixtures or use of gray water systems. This analysis attempts to gloss over the significance of the projects potential impacts by discussing this Green Approach, but without offering specific mitigations or requirements that would make the project adhere to such an approach. These 'approaches' must be included as required mitigations measures to have any value in reducing the significant impacts of the proposed project.

19-12

--The Use of Fill discussion (pg. 27, 95) states that the project will be importing 25,000 cubic yards of fill. There is, however no mention of any "clean" standards for this fill nor any mitigation measures requiring that such standards be met. If that much fill was in any way contaminated with metals, for example, it could be a disaster to the site and even to surrounding areas. There are also no contingency plans for the possibility of contaminated fill reaching the area even if clean standards are required. A complete analysis of the significance of the potential impacts of this extensive use of fill must be conducted, with appropriate mitigation measures required.

19-13

--The mitigation HAZ-1 regarding Asbestos (pg. 102) is good, but there must be a similar requirement for lead to prevent the possibility of lead paint being released to the air or ground.

19-14

--Both the Air Quality (pg. 51, 100) analysis and Hazardous Materials (pg. 102) analysis only take into account the impact of cars. With the new exhibits, visitor retail, concession, and restaurant, this proposed project would definitely require more HVAC (heating/cooling), as well as increased ventilation for the cages and animal holding areas. All these operations do require hazardous materials! (fuel, oils, paint, cleaning supplies, bleach, water treatment chemicals, etc.) and therefore will also generate hazardous waste. The statement on page 102 about no hazardous materials or waste is completely inaccurate and attempts to gloss over potential impacts. The impact of this is potential spills or releases during transportation, use, or storage - very real issues. The proposed project is also likely to use a great deal more water, and therefore wastewater. All of these additional items and potential impacts must be evaluated and properly mitigated.

19-15

--There are no mitigations required for eliminating the use of landscaping chemicals, nor any analysis on the impact of such chemicals on the plant habitats, the wildlife that might continue to use the site or on Rathbun Creek. This analysis must be done and proper mitigations required.

19-16

--With the large amount of fill being proposed to eliminate the flood plain, the overall hydrology of the area would be drastically changed; yet, there is minimal and insufficient analysis of what the potential impacts might be on surrounding properties, on the flow

19-17

and hydrology of Rathbun Creek, and on the hydrological needs of the plant habitats. This analysis must be done and proper mitigations required.

19-17
con't

While we are not opposed to the zoo or its relocation, we believe that insufficient analysis and impact evaluation has been conducted in order to properly determine the true significance of potential impacts and to fully protect this sensitive parcel, its important habitats and the wildlife that utilizes it. We also believe that additional analysis and mitigation must be done in order to properly protect the quality of life of the neighboring residents and visitors.

19-18

In conclusion, we believe that the required analysis was cut short by doing a Mitigated Negative Declaration. To properly and fully analyze the actual potential impacts and their significance to the environment, prior to making any decisions, a full Environmental Impact Report must be conducted which includes all the analysis and data collection that is missing from this current Initial Study/Mitigated Negative Declaration.

Sincerely,



Sandy Steers
for Friends of Fawnskin



Adam Keats
for Center for Biological Diversity

Letter 19 Friends of Fawnskin and Center for Biological Diversity,
September 20, 2013

Comment 19-1 This comment states that the Friends of Fawnskin and the Center for Biological Diversity were not notified nor sent a copy of the Initial Study even though they asked to be on the County's list as interested parties regarding this project and requested to receive notifications of any actions on this project.

Friends of Fawnskin expected to review an Environmental Impact Report not an Initial Study in support of a Mitigated Negative Declaration due to the sensitive biological resources on-site.

Response Staff members conducting the mailout were unaware of any previous commitments of a mailing list, but in any case, the project was advertised on site and in local media.

The Special Districts Department (SDD), including the Big Bear Valley Recreation and Parks District (BBVRPD) have been planning the relocation of the zoo for a number of years and have studied a number of sites before choosing the proposed location evaluated in the Initial study. During this process, SDD and BBVRPD agreed that if the proposed project at this location would result in significant unavoidable impacts on the environment, an EIR would be prepared. When selecting this site to relocate the zoo, a number of special studies were prepared including but not limited to a habitat assessment and focused surveys for SWWF, traffic impact analysis, land use study, drainage study, air quality assessment and a noise study. After reviewing all of the all of these studies, SDD and BBVRPD determined that impacts associated with the relocation of the zoo could be mitigated to less than significant levels and proposed to adopt a Mitigated Negative Declaration.

Comment 19-2 This comment states that the plant surveys completed for the site are inadequate to determine presence or absence of rare or special status plants and cites California Department of Fish and Wildlife Protocols for conducting surveys.

Response Two rare plant surveys were conducted in 2011 and 2012 and provided two consecutive years of data. The field work was conducted using standard methods that meet the Department's protocols for surveying and evaluating special status species and natural communities. This information has been summarized from the reports prepared for the project that were provided in the Draft Initial Study in Appendix C.1 and Appendix C.3. Maps showing the survey areas are provided in each of the reports included in Appendix C.

With regard specifically to the timing of the field surveys, prior to commencing with surveys of the project site, Richard Tanner, Tanner Environmental Services contacted the San Bernardino National Forest Biologist requesting recommendation for a qualified botanist with experience with mountain plants. The Forest Biologist provided 3 names of which Andrew Sanders was one. Mr. Sanders has over 30 years of experience studying plants in the southern California region including plants known from the San Bernardino mountains,

and is based at the University of California Riverside Herbarium. During the site reconnaissance, Mr. Sanders did not see any rare plants nor sign of rare plants and concluded that the habitat was highly disturbed. However, understanding that this work was completed in July 2011, and a subsequent plant survey was completed in July 2012, the findings of the two reports are now outdated. Therefore, prior to any site disturbance, a new plant survey would have to be conducted. This is standard procedure according to CDFW protocols.

Comment 19-3 This comment states that the site contains critical habitat for the southwestern willow flycatcher (SWWF) and that the Biological Resources Assessment prepared for the project recommended mitigation measures for impacts to this species but that the Initial Study did not include these measures. The mitigation measures that are listed in the Initial Study are incomplete and inadequate.

Response The 2011 General Biological Resource Assessment, Rare Plant Survey and Focused Southwestern Willow Flycatcher Survey prepared for the project, mischaracterized the project site as being within critical habitat for the SWWF. As discussed starting on Page 71 of the Initial Study, the vicinity of the project is within critical habitat, however the project site is not. This was confirmed in email correspondence between Erinn Johnson (Athena Group) and Mr. John Taylor of USFWS which is attached to the 2012 Plant Survey memo (See Appendix C.3). As such, certain mitigation measures that were identified in the 2011 technical report did not apply to the proposed project and were not included in the Initial Study.

Comment 19-4 This comment states that the Bridge Memo prepared for the Initial Study (Appendix C.4) does not mention that the riparian habitat is critical habitat for the SWWF. Also, by designing the bridges across the washes to avoid impacts to riparian habitat the County is also avoiding a US Fish and Wildlife consultation, the agency responsible for monitoring impacts to federally listed species thus attempting to avoid public disclosure of the significance of the impacts.

Response With regard to SWWF critical habitat, see response to comment 19-3.

With regard to USFWS consultation, the proposed project includes Rathbun Creek which is tributary to Big Bear Lake which is considered by the Army Corps of Engineers as waters of the US. Consultation with USFWS would be through USACE and if required, USACE would initiate that consultation. It is not the County's intent to avoid disclosure of significance of impacts, instead, the intent of the proposed bridge design is to reduce impacts to the creek and associated riparian habitat as part of the design of the project, rather than through mitigation measures.

Comment 19-5 This comment states that the traffic impact analysis prepared for the project was conducted at a time of the year with the "lowest traffic density" and that traffic surveys must be conducted during peak seasons such as the November/December ski season when major congestion occurs.

Response Seasonal variations are accounted for in the traffic projections, as described on page 3-1 of the Traffic Study (Appendix J). The traffic study was coordinated between the County Transportation Division, Caltrans and the City of Big Bear Lake, and both of Caltrans and the City accepted the methodology.

Comment 19-6 This comment states that the aesthetics section of the Initial Study is inadequate because it only compares the proposed wall plans to a “worse thing that might be done” and that the design plans should be made mitigation measures so the project could not completely change the exterior view plans without the County being held accountable.

Response Aesthetics is always subjective and is measured by individual taste and opinion. Neither the City of Big Bear Lake nor the County of San Bernardino have specific guidelines for aesthetics. Instead both agencies rely on their respective zoning standards and development codes to control building heights, setbacks, landscaping standards, perimeter security treatments (wall vs fencing), etc. in order to control the character of a neighborhood or district. The intent of the Aesthetics section of the Initial Study was twofold: 1) to compare the proposed project to the City and County codes; and 2) to evaluate the existing and altered viewshed after the project is built.

The Aesthetics section includes a description of the existing conditions at the project site and surrounding area both in text and in graphics as shown in the “existing views” in the visual simulations (5a/b, 6a/b and 7a/b) and visually compares existing and proposed conditions. Included in these graphics are sample wall designs to show the BBVRPD’s intent to provide a perimeter wall that would provide protection of the animals that will live on site, and provide the surrounding neighbors, passersby and visitors with a decorative wall that describes the site and breaks up the solid wall mass. Providing plans instead of graphic depictions of the proposed walls would not tell the same graphic story as the visual simulations.

Finally, should the Board of Supervisors elect to approve the proposed relocation of the zoo to this site, the Board would be approving the project as described in the Initial Study Project Description and evaluated through the Environmental Checklist. Including mitigation measures that restate what has been proposed would be redundant.

Comment 19-7 This comment states that the zoo parking area is the same area as the Bear Mountain Ski Resort parking area and that there was insufficient analysis to determine whether parking would be adequate during peak season and peak usage times.

Response Table 2 on page 28 of the Initial Study shows the projected growth in visitorship to the zoo over the next 10 years based on an opening year of 2013 and a 2% annual rate of increase of visitors. At year 2013, the number of parking spaces needed is estimated to be 211. Up to 35 spaces can be provided on the zoo site, leaving 176 to be provided in the off-site parking lot. The District will share this parking lot with the ski resort as described on page 23 which is estimated to hold approximately 480 spaces and intends to pave a portion of the off-site

parking lot to accommodate these vehicles; clearly marking this area for zoo visitors.

Comment 19-8 This comment states that the plan for handling snow removal do not discuss impacts on the hydrology of Rathbun Creek and asks if snow removal efforts during zoo operation would change or reduce the snow melt entering the creek, or contaminate the snow melt runoff into the creek. Also what happens to the snow that is removed.

Response Snow removal and control of on-site and off-site stormwater running onto the site was evaluated in the Hydrology Assessment (Appendix G) and in Section IX, Hydrology and Water Quality. In order to provide a year-round experience for visitors, snow removal will be completed as often as necessary for the safety of the visitors and the animals living at the site. Development of the site will change the existing drainage of the site; however, the site will continue to drain into Rathbun Creek but in a more orderly programmed manner as it must first be treated prior to release. Maintenance of the site, including the removal of snow and the control of stormwater and nuisance water will be on-going throughout the life of the project and will be conducted in accordance with an approved Water Quality Management Plan.

Comment 19-9 This comment states that the analysis of nuisance water fails to discuss testing site runoff or any contingency plans for situations where the tests show insufficient water treatment or what would happen if the treatment system breaks down. Therefore, the analysis is inadequate to determine the actual significance of potential impacts or to properly mitigate these impacts.

Response The District is aware that both Rathbun Creek and Big Bear Lake are listed as impaired water bodies for various constituents. The following Basin Plan water quality objectives will be adhered to for the control of discharges from the new zoo facility to Rathbun Creek:

- Total Dissolved Solids - 300 mg/l
- Total Inorganic Nitrogen - 0.15 mg/l
- Nitrogen/Nitrates - 5.00 mg/l

It is the District's intent to adhere to the TMDL's as noted in the Regional Water Quality Control Board's (Water Board) Basin Plan. To ensure that these objectives can be obtained, the District proposes to separate the animal enclosure wash down flows from storm flows, pre-treat the wash down water, including mechanical screening and nutrient removal, and de-nitrification at a minimum, and dispose of the treated water in the City sewer system. During construction of the new facility, Best Management Practices will be used to protect the creek from erosion and runoff generated on the project site.

In addition, as part of the District's water quality management planning effort, staff intends to employ BMPs for the capture and control of stormwater and snow melt from impervious surfaces such as sidewalks, rooftops and parking areas by treating the "first flush" (prior to entering the water quality basins).

Waste will be drained from each animal enclosure and piped to a pre-treatment facility where the solids will be removed by screening for disposal at a sanitary landfill. The pre-treatment facility will include de-nitrification of the remaining liquid before it is directed to the sewer system. There will be two pre-treatment facilities, one on each side of the zoo since it is bisected by Rathbun Creek.

The District is working with the Water Board and prior to construction of the new zoo, must obtain permits from the Water Board, California Department of Fish and Wildlife and the US Army Corps of Engineers, and the City of Big Bear Lake based on a site specific Water Quality Management Plan that implements Best Management Practices agreed upon by all parties.

Comment 19-10 This comment points out a discrepancy between two paragraphs where the number of species housed at the new zoo is identified.

Response The zoo expansion would allow flexibility to accept additional wildlife into properly secured enclosures. Figures regarding the number of species were estimated at various planning stages.

Comment 19-11 This comment states that there is no discussion of the impacts night lighting will have on wildlife species or on aesthetics.

Response Night lighting is discussed on Page 35 in section 1, Aesthetics. "According to the *Project Master Plan* (See Appendix A), lighting would occur along paths and in large plaza areas, as well as service areas. Lighting is described as "direct" and "glare-free." A proposed pole light fixture sample is shown in Figure 6b in the parking lot. It is described in the *Project Master Plan* as a bell-shaped reflector shade with a light that focuses downward. Table 83-7, *Shielding Requirements for Outdoor Lighting in the Mountain Region and Desert Region*, from the *County of San Bernardino 2007 Development Code*, lists the shielding requirements for lighting. Almost all fixture lamp types must be shielded. Searchlights for advertising purposes are prohibited, as are laser source lights or similar light intensity lights for advertising purposes when projected above the horizontal."

The project site is not located in a remote unoccupied wilderness area that when adding the proposed relocation of the zoo would introduce significant new night lighting. Instead, the project site is located in an area that is already developed with urban uses including built-out residential neighborhoods and a commercial zone all contributing to nighttime lighting in the area. BBVRPD's intent is to meet the lighting standards for the area.

Comment 19-12 This comment states that more information is needed on the construction and operation of the new zoo buildings in terms of LEED elements in order to determine if impacts would be reduced. The proposed approaches to building "green" should be mitigation measures.

Response Page 26 of the Project Description includes a number of goals BBVRPD would like to achieve in construction and operation of the new zoo by using a

“green approach”. The statement simply says that “in order to educate and lead by example, the BBAZ will incorporate green approaches to construction and operations. The project will take advantage of green building techniques on a day-to-day basis as well as in its construction, using as many low-impact, low-tech construction methods as possible. The discussion does not include mention of LEED certification, only that it is BBVRPD’s intent to incorporate sustainable building practices when feasible.

Finally, should the Board of Supervisors elect to approve the proposed relocation of the zoo to this site, the Board would be approving the project as described in the Initial Study Project Description and evaluated through the Environmental Checklist. Including mitigation measures that restate what has been proposed would be redundant.

Comment 19-13 This comment states that there are no “clean” standards for the imported fill material and no mitigation measures for requiring “clean” standards be met.. Contamination of the fill material brought on site could be a disaster and a complete analysis is required.

Response The County has an obligation to its residents to ensure that any project requiring the use of fill material be required to have all material tested for contaminants including volatile organic compounds (VOCs) and metals, prior to transport to a development site. Material will not be accepted for use on site without test results that establish it to be free of contaminants.

Comment 19-14 This comment states that Mitigation Measure HAZ-1 should also be required for any lead based paint that may be released during demolition.

Response Due to the age of the existing zoo buildings, lead based paint may have been used as part of the on-going maintenance. Therefore, paragraph b) on page 102 of the Initial Study will be revised to include the following text, and Mitigation Measure HAZ-1 will be revised as restated below. In addition to this comment, the State Department of Substances Control also asked for clarification of this measure and this is reflected in this revised measure.

b) **Less than Significant Impact with Mitigation Incorporated.** Development of the new BBAZ and the demolition of the existing facilities would not create a significant hazard involving the release of hazardous materials into the environment when mitigation is incorporated. Depending on the age of the buildings at the existing facility, some asbestos containing building material may be present in the buildings, and during maintenance lead-based paint may have been used. Prior to beginning demolition, an assessment of the existing buildings will be conducted to determine presence/absence of such materials. Implementation of the following mitigation measure will ensure that this impact is less than significant.

HAZ-1 Prior to commencement of demolition of the existing zoo facility, a work plan will be prepared to ~~an~~ assessment of the site for building materials that may contain asbestos such as flooring or

ceiling tiles, cement wallboard or siding, cement pipes, fireproofing materials, etc must be completed. If the findings of this assessment are positive and asbestos-containing materials are found to have been used in construction of the existing facility, remediation of any materials found on-site must be completed prior to the start of demolition of those buildings that may have asbestos-containing materials. Likewise, testing of painted surfaces for lead is also required. Materials shall be removed by a licensed company and taken to an approved landfill for disposal. The work plan will be reviewed and approved by the San Bernardino County Fire Department, Hazardous Materials Division, the local Certified Unified Program Agency (CUPA).

Comment 19-15 This comment states that the Air Quality and Hazardous Materials analysis only take into account impacts of cars and not other generators of emissions such as heating and air conditioning systems or commonly used chemicals found in cleaning products. The impact of potential spills during transport, use and storage are very real issues that must be evaluated. Also the increase in the use of water must be evaluated.

Response The Air Quality analysis (Section III) includes an evaluation of all phases of development and operation of the proposed relocation project most readily shown in tables 8 through 12. Specifically, Table 11, Project Operational Emissions includes a number of operational elements in addition to vehicle emissions, including but not limited to natural gas consumption, landscape maintenance, the use of consumer products such as cleaning agents, and the on-going building maintenance associated with periodic application of architectural coatings.

The intent of questions VIII a through c, is to establish whether a proposed project would be transporting, using, storing or disposing of such materials that if released into the atmosphere or water could cause serious harm to people or the environment such that the materials would require material safety data sheets (MSDS) or product safety data sheet (PSDS) accompany them during transport or use. These sheets are intended to provide workers and emergency personnel with procedures for handling or working with that substance in a safe manner, and includes information such as toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill-handling procedures. The existing zoo does not receive or store any hazardous materials that require material safety data sheets and generally only use products with instructions for use storage and disposal can be found on the label. Hazardous materials that are commonly used at the existing zoo include, cleaning supplies and similar products and occasionally architectural coatings during periodic maintenance. These hazardous materials can all be brought to the site in small vehicles mixed in with other similar supplies that may be brought to the site.

Comment 19-16 This comments states that the Initial Study does not analyze landscaping chemicals or their impacts on plant habitats, wildlife and Rathbun Creek.

Response The proposed project includes landscaping using trees, shrubs and groundcover intended to be low maintenance, including fertilizer and pesticide applications. In addition, as part of the site's Water Quality Management Plan, Best Management Practices for the control of runoff from the site must be adopted that would prevent run-off from leaving the site prior to being treated.

Comment 19-17 This comments states that the placement of a large amount of fill to eliminate the flood plain may cause potential impacts on surrounding properties on the hydrology of Rathbun Creek and on the hydrological needs of the plant habitats.

Response Grading of the project site includes the import of fill material to raise a portion of the site out of the flood plain of Rathbun Creek changing the hydrology of the site. As required of all development projects, stormwater runoff from a site must be controlled to prevent flooding of off-site properties. In other words, the project site cannot be developed so that it drains onto another property. This is discussed in Section IX, Hydrology and Water Quality, in IX.e. The proposed project would not create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Although the City DWP does have storm sewer (storm drain) facilities in the vicinity of the project site, the BBAZ has been designed to handle on-site stormwater, wash water and nuisance water through the construction/operation of a series of water quality treatment basins that will capture on-site runoff, detain it and treat it on-site, then control the outflow of the treated water into Rathbun Creek and ultimately into Big Bear Lake. Only the areas of the site located outside the perimeter wall will contribute runoff to the City's storm sewer system. These external areas represent less than 5 percent of the total project area and therefore, the proposed project would not have an adverse impact on adjacent properties.

Comment 19-18 This comments reiterates that the Initial Study is inadequate and insufficient evaluation was conducted in order to properly determine the true significance of potential impacts. This is a sensitive parcel with important habitats and wildlife. Also that additional analysis is required in order to properly protect quality of life of the neighboring residents and visitors.

Response The Special Districts Department (SDD), including the BBVRPD have been planning the relocation of the zoo for a number of years and have studied a number of sites before choosing the proposed location evaluated in the Initial study. During this process, SDD and BBVRPD agreed that if the proposed project at this location would result in significant unavoidable impacts on the environment, an EIR would be prepared. When selecting this site to relocate the zoo, a number of special studies were prepared including but not limited to a habitat assessment and focused surveys for SWF, traffic impact analysis, land use study, drainage study, air quality assessment and a noise study. After reviewing all of the all of these studies, SDD and BBVRPD determined that impacts associated with the relocation of the zoo could be mitigated to less than significant levels and proposed to adopt a Mitigated Negative Declaration.

Should the Board of Supervisors elect to approve the proposed relocation of the zoo to this site, the Board would be approving the project as described in the Initial Study Project Description and evaluated through the Environmental Checklist. Including mitigation measures that restate what has been proposed would be redundant.

3.0 ERRATA SHEET - MINOR REVISIONS

A. PURPOSE

This section provides changes to the Draft Initial Study/Mitigated Negative Declaration (IS/MND) that have been made to clarify, correct or supplement the environmental impact analysis for the Project. Such changes are a result of recognition of inadvertent errors or omissions as well as public and agency comments received in response to the Draft IS/MND. The changes described in this section do not result in any new or increased significant long term environmental impacts that would result from the project.

Provided below are corrections and additions to the Draft IS/MND, including where appropriate, the associated technical appendices. Changes are identified below by the corresponding Draft IS/MND section and subsection, if applicable, and the page number. Additions are underlined and deletions are shown in ~~strikethrough~~ format.

The following revisions have been made to the Initial Study, and along with the Initial Study and its attachments, constitute the Final Initial Study for the proposed project as allowed under Section 15074.

B. REVISIONS TO THE DRAFT IS/MND

Section III Air Quality

The South Coast Air Quality Management District (SCAQMD) requested additional information on the overflow parking lot with regard to grading and paving. The BBVRPD intends to pave a portion of that lot to accommodate 150 zoo visitors including drive aisle(s) and driveway from Moonridge Road. Although this was always part of the project description and assumed in the environmental evaluation of the project, the air quality modeling for the project did not consider paving the overflow parking lot only the project site, and assumed that during operation visitors would park in the unpaved parking lot that would be shared with the ski resort. The discussion of construction and operation in Section III of the Draft EIR will be revised beginning on page 64 to revise Tables 9 through 11 in the Initial Study. New data is underlined, and deleted data is shown in ~~strikethrough~~.

Table 9 in the Initial Study (Table 6 in the Air Quality Assessment) shows that emissions of criteria pollutants would increase during grading and paving activities, but would not exceed SCAQMD Thresholds except for VOC where the increase would exceed the threshold by 11.6 lbs per day. Construction activities associated with grading and paving of parking lots is anticipated to take 20 working days or approximately four (4) weeks. As shown in the Initial Study Table 3, Construction Schedule by Phase, construction activities for Phase 1 – site grading and infrastructure development, new housing for animals at the existing zoo, visitor amenities (restaurant, gift shop, etc) animal holding buildings, and maintenance building and yard) – would take an estimated 18 months to complete. The 20 working days associated with grading and paving the parking areas represents approximately five (5) percent of the total construction schedule.

**Table 9
Peak Construction Emissions**

Activity	Daily Emissions (lbs/day)					
	CO	VOC	NO _x	PM ₁₀	PM _{2.5}	SO _x
Demolition	43.9	71.4	9.0	4.3	3.6	0.07
Site Preparation	46.7	80.1	10.0	23.4	13.9	0.07
Grading	38.6 60.8	62.9 111.6	7.7 13.2	52.5 54.3	6.7 6.6	0.07 0.12
Construction	25.1	35.8	5.4	2.6	2.3	0.04
Paving	21.7	32.2	5.3 6.4	3.0	2.8	0.03
Painting	2.1	2.8	44.0	0.3	0.2	0.00
Existing Zoo Demolition	42.1	66.4	8.5	4.2	3.2	0.07
Concurrent Activity Emissions:						
Construct/Paint/Pave (parking lot area for BBAZ visitors)	48.9	70.8	54.7 55.8	5.9	5.3	0.07
SCAQMD Threshold	550	100	75	150	55	150
Exceed Threshold?	No	No Yes	No	No	No	No

NOTE: Construction emissions include standard mitigation as required by SCAQMD rules. Particulate (PM₁₀ and PM_{2.5}) emissions include 61 percent reduction from watering exposed areas three times daily.

The short term increase in the emissions of pollutants that make up VOC can be offset with the long term reduction in the fugitive dust generated by visitors entering and exiting an unpaved parking lot throughout the day, every day. In addition to a reduction in the generation of fugitive dust, paving the parking lot would also reduce the potential for erosion associated with storm water and snow melt that could carry pollutants and sediments across the parking lot and into Rathbun Creek. Therefore, the BBVRPD believes that the short term increase in VOC is offset by the reduction in air quality and drainage impacts that would result from the use of an unpaved parking lot.

With regard to the LST analysis that was conducted for the project, the thresholds were checked to make sure that no exceedances occurred when paving the overflow lot is included in the construction mix. Table 10 in the Initial Study (Table 7 in the air quality assessment) showed the results of the LST analysis. The revised table shows that there will be no exceedances of the LST thresholds for construction with the addition of the paved overflow parking lot.

Finally, because the portion of the parking lot that would be used for the proposed project will be paved, Table 11 in the Initial Study (Table 8 in the Air Quality Assessment) shows that the project emissions are below the SCAQMD Thresholds of Significance, for all criterion pollutants. Therefore, the project is not anticipated to result in a significant air quality impact and long-term mitigation measures are not required. As shown in the revised table the reduction in the amount of fugitive dust (PM₁₀ and PM_{2.5}) generated in the parking lot has been reduced dramatically.

**Table 10
On-Site Emissions by Construction Activity (LSTs)**

Activity	Daily Emissions (lbs/day)			
	CO	NO _x	PM ₁₀	PM _{2.5}
Demolition	42.6	70.7	3.8	3.5
Site Preparation	45.4	80.0	23.1	13.9
Grading (parking lot pre-paving)	31.0 52.9	48.8 97.5	6.2 7.4	6.1 5.9
Construction	23.5	34.7	2.3	2.3
Paving	20.7	32.1	2.7	2.7
Painting	1.9	2.8	0.2	0.2
Existing Zoo Demolition	41.0	66.2	3.3	3.2
Concurrent Activity Emissions				
Construct/Paint/Pave	46.1	69.5	5.9	5.3
SCAQMD LST Threshold	2,075	75	150	55
Exceed Threshold?	No	No	No	No

Source: CalEEMod, 2011.

Table 11 Project Operational Emissions

Source	Daily Emissions (lbs/day)					
	CO	VOC	NO _x	PM ₁₀	PM _{2.5}	SO _x
Vehicular Emissions	43.7	4.5	12.3	8.5	0.8	0.07
Natural Gas Combustion	0.2	0.02	0.2	0.02	0.02	0.00
Landscaping	0.0	0.0	0.0	0.0	0.0	0.00
Consumer Products	0.0	0.74	0.0	0.0	0.0	0.00
Architectural Coatings	0.0	0.24	0.0	0.0	0.0	0.00
Overflow Parking Lot (paved for BBAZ visitors)	0.0	0.0	0.0	72.6 (0.06)	7.2 (0.04)	0.00
Total Emissions	43.9	5.5	12.5	81.2 (8.58)	8.0 (0.86)	0.07
Significance Threshold	550	55	55	150	55	150
Exceed Threshold?	No	No	No	No	No	No

Source: CalEEMod, 2011.

Section VIII - Hazards and Hazardous Materials

The State Department of Toxic Substances Control stated that if any environmental investigations are required as part of demolition of the old site or development at the new site they should be conducted under a Work Plan approved by the agency with oversight of hazardous substance cleanup. Mitigation Measure HAZ-1 on page 102 of the Draft IS/NOI has

been revised to clarify that a work plan for the site assessment will be reviewed and approved by the San Bernardino County Fire Department, Hazardous Materials Division, the local Certified Unified Program Agency (CUPA). In addition, the Friends of Fawnskin and the Center for Biological Diversity suggested adding testing for lead-based paint to Mitigation Measure HAZ-1. This revision has been added.

HAZ-1 Prior to commencement of demolition of the existing zoo facility, a work plan will be prepared to an assessment of the site for building materials that may contain asbestos such as flooring or ceiling tiles, cement wallboard or siding, cement pipes, fireproofing materials, etc must be completed. If the findings of this assessment are positive and asbestos-containing materials are found to have been used in construction of the existing facility, remediation of any materials found on-site must be completed prior to the start of demolition of those buildings that may have asbestos-containing materials. Likewise, testing of painted surfaces for lead is also required. Materials shall be removed by a licensed company and taken to an approved landfill for disposal. The work plan will be reviewed and approved by the San Bernardino County Fire Department, Hazardous Materials Division, the local Certified Unified Program Agency (CUPA).

Section IX – Hydrology and Water Quality

In response to comments received from the Santa Ana Regional Water Quality Control Board the following revisions have been made to the Initial Study:

Page 26, Chapter 2, Project Description

The first paragraph on page 26 has been revised to provide additional detail on the treatment of nuisance water generated on site.

Nuisance water (irrigation runoff, enclosure washing waste, hosing down hardscape areas, etc.) generated within the project area will be conveyed to a pre-treatment facility to the basins for treatment prior to discharge into Rathbun Creek. Waste will be drained from each animal enclosure and piped to a pre-treatment facility where the solids will be removed by mechanical screening for disposal at a sanitary landfill. The pre-treatment facility will include de-nitrification of the remaining liquid before it is directed to the City sewer system. There will be two pre-treatment facilities, one on each side of the zoo since it is bisected by Rathbun Creek. In addition, Zookeeper staff remove animal waste from the enclosures regularly. Treatment of nuisance water will be natural using sustained detention times and native plant materials to filter and treat the water. Stormwater will be contained and treated separately. As part of the BBVRPD's water quality management planning effort, staff intends to employ BMPs for the capture and control of stormwater and snow melt from impervious surfaces such as sidewalks, rooftops and parking areas by treating the "first flush" (prior to entering the water quality basins). Each stormwater basin will be sized to capture the initial overflow generated during a 100-year storm event. A concrete low-flow outlet structure and outfall pipes will effectively meter the outflow from each basin ~~the basins~~ into Rathbun Creek. A sedimentation basin will be incorporated into each basin to trap particulates before the runoff reaches the outlet structure. The sedimentation basins will be planted with native species that act as a bio-filter to trap and utilize the sediment as nutrition. The basins will be subject to regular maintenance under appropriate permits.

Pages 86 and 87, Section IV Biological Resources

The second and third paragraph on page 86 has been revised as follows:

Three water quality treatment basins are included in the project; two will be located on the BBAZ site, and one will be across Moonridge Drive in the parking area. The purpose of the basins is to provide sufficient capacity to capture and treat stormwater runoff that enters or is generated within the project area, including the parking area. The basins will serve as stormwater detention basins as required by the County's Water Quality Management Plan and must be constructed to conform to the County's Best Management Practices (BMP) and the requirements for discharge in accordance with the regulations of the Regional Water Quality Control Board, Santa Ana Region (RWQCB). In the site's current undeveloped state, rain and snow falling on the site and runoff from the adjacent golf course on the south (including irrigation water) flow across the site and enter Rathbun Creek. As the site is developed, these flows ~~along with nuisance water (irrigation runoff, enclosure washing waste, hosing down hardscape areas, etc.)~~ generated within the project area will be captured and routed through the site, then treated in one of the two water quality basins, then released into Rathbun Creek. As part of the BBVRPD's water quality management planning effort, BMPs will be implemented for the capture and control of stormwater and snow melt from impervious surfaces such as sidewalks, rooftops and parking areas by treating the "first flush" (prior to entering the water quality basins). A third water quality basin will serve the same function in the parking lot on the north side of Moonridge Road where BBAZ visitors will park.

Treatment of the stormwater will be natural using sustained detention times and native plant materials. Each basin will be sized to capture the initial overflow generated during a 100-year storm event. A concrete low-flow outlet structure and outfall pipes will effectively meter the outflow from the basins into Rathbun Creek. A sedimentation basin will be incorporated into each basin to trap particulates before the runoff reaches the outlet structure. The sedimentation basin will be planted with native species that act as a bio-filter to trap and utilize the sediment as nutrition. Water quality will be monitored after storm events and the basins will require routine maintenance to remove excess sediment for offsite use/disposal. A small model backhoe may be used for sediment removal, utilizing straw matting to contain the sediment if not placed directly into a transport vehicle for offsite usage or disposal. The basins will be subject to regular maintenance under appropriate permits.

Nuisance water (irrigation runoff, enclosure washing waste, hosing down hardscape areas, etc.) generated within the project area will be kept separate from stormwater and will be conveyed to a pre-treatment facility. Waste will be drained from each animal enclosure and piped to a pre-treatment facility where the solids will be removed by mechanical screening for disposal at a sanitary landfill. The pre-treatment facility will include de-nitrification of the remaining liquid before it is directed to the City sewer system. There will be two pre-treatment facilities, one on each side of the zoo since it is bisected by Rathbun Creek. In addition, Zookeeper staff remove animal waste from the enclosures regularly.

Page 115, Section IX Hydrology and Water Quality

The fifth paragraph on page 115 is revised as follows:

Nuisance water (irrigation runoff, enclosure washing waste, hosing down hardscape areas, etc.) generated within the project area will be conveyed to a pre-treatment facility ~~the basins for treatment prior to discharge into Rathbun Creek.~~ Waste will be drained from each animal enclosure and piped to a pre-treatment facility where the solids will be removed by mechanical

screening for disposal at a sanitary landfill. The pre-treatment facility will include de-nitrification of the remaining liquid before it is directed to the City sewer system. There will be two pre-treatment facilities, one on each side of the zoo since it is bisected by Rathbun Creek. In addition, Zookeeper staff remove animal waste from the enclosures regularly. Treatment of nuisance water will be natural using sustained detention times and native plant materials to filter and treat the water. Stormwater will be contained and treated separately. As part of the BBVRPD's water quality management planning effort, staff intends to employ BMPs for the capture and control of stormwater and snow melt from impervious surfaces such as sidewalks, rooftops and parking areas by treating the "first flush" (prior to entering the water quality basins). Each stormwater basin will be sized to capture the initial overflow generated during a 100-year storm event. A concrete low-flow outlet structure and outfall pipes will effectively meter the outflow from each basin the basins into Rathbun Creek. A sedimentation basin will be incorporated into each basin to trap particulates before the runoff reaches the outlet structure. The sedimentation basins will be planted with native species that act as a bio-filter to trap and utilize the sediment as nutrition. The basins will be subject to regular maintenance under appropriate permits.

Page 155, Section XVII Utilities and Service Systems
The fourth paragraph on page 155 is revised as follows:

Nuisance water (irrigation runoff, enclosure washing waste, hosing down hardscape areas, etc.) generated within the project area will be conveyed to a pre-treatment facility. the basins for treatment prior to discharge into Rathbun Creek. Waste will be drained from each animal enclosure and piped to a pre-treatment facility where the solids will be removed by mechanical screening for disposal at a sanitary landfill. The pre-treatment facility will include de-nitrification of the remaining liquid before it is directed to the City sewer system. There will be two pre-treatment facilities, one on each side of the zoo since it is bisected by Rathbun Creek. In addition, Zookeeper staff remove animal waste from the enclosures regularly. Treatment of nuisance water will be natural using sustained detention times and native plant materials to filter and treat the water. Stormwater will be contained and treated separately. As part of the BBVRPD's water quality management planning effort, staff intends to employ BMPs for the capture and control of stormwater and snow melt from impervious surfaces such as sidewalks, rooftops and parking areas by treating the "first flush" (prior to entering the water quality basins). Each stormwater basin will be sized to capture the initial overflow generated during a 100-year storm event. A concrete low-flow outlet structure and outfall pipes will effectively meter the outflow from each basin the basins into Rathbun Creek. A sedimentation basin will be incorporated into each basin to trap particulates before the runoff reaches the outlet structure. The sedimentation basins will be planted with native species that act as a bio-filter to trap and utilize the sediment as nutrition. The basins will be subject to regular maintenance under appropriate permits.

Section XII – Noise

The City of Big Bear Lake requested that additional measures be incorporated into the project during construction for noise. The District has reviewed these and believes that the best approach to controlling noise during construction is to provide each contractor with a list of conditions based on the City's list. This list of conditions will be placed on all grading and building plans as notes that must be met by each contractor working on site and it will be the responsibility of the general contractor overseeing the construction to ensure that each contractor abides by these conditions. Therefore, the discussion on page 134 of the Initial Study has been revised as follows:

The analysis presented here shows that construction activities could generate loud, but short-term noise levels. The most effective method of controlling construction noise is through limiting construction hours as set forth in the Big Bear Lake Municipal Code. However, the City has requested that specific measures be implemented during construction of the project to meet the Code's intent to control construction noise. These are provided here and when implemented, short-term impacts associated with construction and demolition would be less than significant.

The finding for Item XII(a) has been revised as follows: Less Than Significant with Mitigation Incorporated, and a new mitigation measure NOI-1 has been added as follows:

NOI-1 In order to comply with the City of Big Bear Lake's Municipal Code Section the following items will be added to all grading and construction plans:

- The construction contractor should ensure that all construction equipment, fixed or mobile, is properly operating and tuned-up, and that mufflers are working correctly. All sound-reducing devices on the equipment shall be maintained throughout the construction period.
- The construction contractor shall ensure that all construction equipment, including but not limited to staging areas and stationary equipment, is located so that emitted noise is directed away from the nearest residential buildings.
- The construction contractor should ensure that stockpiling and vehicle staging areas are located as far away as practical from the nearest residential buildings.
- All property owners within 500-feet of the construction site should be mailed a notice regarding the construction schedule of the proposed project. A sign, legible at a distance of 50-feet shall also be posted at the construction site. All notices and signs should indicate the dates and duration of the construction activities, as well as provide a telephone number where property owners, residents, and business owners can inquire about the construction process and register any complaints.
- A "noise disturbance coordinator" should be established. The noise disturbance coordinator is responsible for responding to any local complaints about construction noise. The noise disturbance coordinator would determine the cause of the noise complaint (e.g. starting too early, bad muffler, etc.) and would be required to implement reasonable measures to resolve the complaint. All notices that are sent to the property owners within 500-feet of construction site and all signs posted at the construction site should list the telephone number for the noise disturbance coordinator.
- Noise generated from construction, maintenance, or demolition activities which is unusually loud, excessive, raucous or disturbing at or beyond the property line of the site on which the activity is occurring is not permitted between the hours of 7:00 p.m. and 7:00 a.m., or on Sundays or national holidays, except as approved by the City of Big Bear Lake Chief Building Official based on a determination that the work to be

performed will not have an adverse effect on the public health, safety and welfare, or that the work is necessary to correct a potentially harmful or adverse situation.

The existing NOI-1 measure will be revised as NOI-2 in the final Initial Study and MMRP.

This concludes the Errata.

4.0 MITIGATION MONITORING AND REPORTING PLAN

This Section includes the Mitigation Monitoring and Reporting Plan (MMRP) for the project. It has been prepared in compliance with Section 21081.6 of the California Environmental Quality Act (CEQA), which requires that public agencies adopt a monitoring program for measures that are required to mitigate or avoid significant effects to the environment from the project.

The MMRP serves three functions:

1. Assures completion of mitigation measures during project implementation.
2. Provides feedback to designated agencies and decision makers regarding the effectiveness of the mitigation measures.
3. Identifies the need for enforcement action before irreversible environmental damage occurs.

The MMP includes a list of the mitigation measures required for the project, indicates the timeframe for completion of the measure and indicates who is responsible for carrying out the measure and who is responsible for monitoring that the measure is carried out.



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Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
III (e) Air Quality	<p>AQ-1</p> <p>To ensure that the operation of the project does not result in a significant impact due to odors, an Odor Management Plan (OMP) must be prepared that describes the standard odor control measures that will be undertaken under normal operation, contingency measures to be implemented if odor control issues arise, and a program for responding to odor complaints.</p> <p>The BBVRPD shall prepare an OMP prior to housing any animals within the confines of the new facility that includes all components described below. The OMP shall be submitted to the County Department of Public Health for review. The OMP shall contain the following components:</p> <ol style="list-style-type: none"> 1. A list of all potential odor sources in the facility along with a discussion of the propensity for and conditions in which each source could cause an odor nuisance. This should include discussions of each animal enclosure as well as other potential odor sources such as waste storage/disposal areas and water features. 2. A description of measures used during normal conditions to minimize odors generated by the sources described in #1. This should include specific details about the frequency and methods used in regular cleaning of the animal enclosures, measures to contain odors from waste storage areas, measures to ensure that water features do not generate considerable odors, as well as any other measures that will be implemented during normal operations that will minimize odor nuisances. 	During Operation	BBVRPD	County Department of Environmental Health



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Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
	<p>3. A description of contingency measures to neutralize odors in the case that the standard measures described in #2 do not effectively control odors. This should include specific details about additional odor control methods that will be implemented if the measures described in #2 do not limit odors to a satisfactory level.</p> <p>4. A description of a protocol to address odor related complaints from the community. This shall describe a public outreach program to provide the local community with a contact phone number and e-mail address for odor related questions or complaints. The name, title, and contact phone number for the person who is responsible for responding to complaints shall be listed in the OMP. When a complaint is received a facility representative shall be required to conduct an odor survey of the surrounding community as soon as practical but not to exceed 24 hours after receiving the complaint. The OMP shall describe:</p> <ul style="list-style-type: none"> a. The maximum time between the complaint and an initial response to the complaint (e.g., a return phone call), and the maximum time between the complaint and a neighborhood odor survey. b. A description of the requirements for a neighborhood odor survey completed in response to a complaint, including the person(s) that will perform the survey and a discussion of the 			



Big Bear Alpine Zoo Relocation Mitigation Monitoring and Reporting Plan



Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
	<p>locations that the survey will be conducted (the survey should be conducted in a complete radius of the facility at no less than six locations and extend as far outward as odors are detected). At each survey location, the detectability and intensity (i.e., weak, moderate, strong) of any odor shall be documented along with the date and time of the survey, wind speed and direction during the survey, as well as an identification of the potential source of any odors detected, if possible.</p> <p>5. A description of a system to log all odor complaints including the date and time of complaint event, the date and time the complaint was received, a description of the complaint, the name and contact number of the complainant (if provided), meteorological conditions at the time of the complaint event including outdoor ambient temperature, wind speed and direction, a description of the results of the neighborhood odor survey, as well as a description of any measures enacted to control the odors that were the source of the complaint. All odor complaint logs shall be retained for a minimum of two years after receipt of the complaint.</p> <p>6. A description of measures that will be enacted to respond to and resolve repeated complaint situations.</p> <p>A copy of the odor complaint log shall be submitted annually to the County of San Bernardino Department of Environmental Health Services (DEHS) along with a</p>			



Big Bear Alpine Zoo Relocation Mitigation Monitoring and Reporting Plan



Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
	summary of complaints and their resolution. At the discretion of the facility operator or the County, and subject to approval by the County DEHS, the OMP shall be updated at this time to include additional odor control measures under normal or contingency conditions undertaken to respond to odor complaints and/or remove those measures that have been found to be ineffective, as well as any other updates to procedures to increase the efficiency and effectiveness of the plan and complaint response protocol.			
IV (a) Biological Resources	BIO-1 Pre-construction Surveys - Nesting bird and sensitive species surveys shall be conducted approximately three to five days prior to commencement of any site disturbance by a qualified biologist. Depending on the species, buffer zones of 300 to 500 feet must be established around nesting birds until nesting is confirmed to have failed or fledglings are deemed sufficiently developed and independent. In general these buffer zones and protection for nesting birds under the Migratory Bird Act remain in place between February 15 and September 15.	Prior to Construction	BBVRPD, Biologist	County Special Districts
IV (a) Biological Resources	BIO-2 If construction occurs at nighttime, a qualified biologist shall review staging/storage areas locations to ensure these avoid habitat within a ½-mile buffer, so as to avoid impacts to sensitive nocturnal species including California spotted owl, San Bernardino flying squirrel and roosting bald eagles.	During Construction	BBVRPD, Contractor, Biologist	County Special Districts
IV (b), (c) Biological Resources	BIO-3 <u>Bridges</u> . The proposed bridge crossings would be designed to span across the creek without placing fill within the OHWM or adjacent wetlands and the bridges	During Project Design	BBVRPD, Engineer	County Special Districts



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Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
	<p>would not cause alteration of any portion of the streambed or stream bank. No piers or pilings would be placed in the creek. Limited brush removal would occur to construct the 20-foot wide span bridge crossings. However, no impacts would occur to USACE jurisdiction resulting from this activity. The Project proponent plans to permanently impact approximately 0.05 acres of CDFG habitat for removal of riparian vegetation associated with construction of the bridge crossings. Proposed mitigation for impacts to CDFG habitat would occur within Rathbun Creek within existing emergent wetland habitat at a 2:1 ratio or 0.10 acres.</p>			
<p>IV (b), (c) Biological Resources</p>	<p>BIO-4 <u>Sidewalk and Perimeter Wall</u>. The Project proponent proposes to restore 0.02 acres of permanent impacts to USACE wetlands and CDFG riparian habitat associated with development of a sidewalk and perimeter wall along Moonridge Road at a 2:1 ratio through the restoration of .04 acres of wetland habitat consisting of Baltic rush (<i>Juncus balticus</i>), Nebraska sedge (<i>Carex nebrascensis</i>), and arroyo willow (<i>Salix lasiolepis</i>) at the southern extent of Rathbun Creek, within the existing emergent wetland habitat and in the vicinity of wetland data plot number 15.</p>	<p>During Project Design</p>	<p>BBVRPD, Engineer</p>	<p>County Special Districts</p>
<p>IV (b), (c) Biological Resources</p>	<p>BIO-5 Nesting Bird Surveys – Depending on the start of construction, if it coincides with the nesting season, surveys shall be conducted prior to construction activities near Rathbun Creek. If nesting activity is confirmed then buffer zones must be created around nest sites and monitors shall, at a minimum check nesting status on a weekly basis. Buffers can be removed and work can</p>	<p>Prior to Construction, During Nesting Season</p>	<p>BBVRPD, Biologist</p>	<p>County Special Districts</p>



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Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
	resume in the area once nests are determined to have failed or fledglings are sufficiently developed.			
V (b) Cultural Resources	CR-1 During the grading/excavation of previously undisturbed soil, an archaeological monitor shall be on-site full time to perform inspections of the excavations. The presence of the archaeologist is a mandatory grading requirement. Monitoring will be suspended or reduced in scope at the discretion of the consulting archaeologist in response to changes in the conditions at the project.	During Grading/Excavation	BBVRPD, Archaeologist	County Special Districts
V (b) Cultural Resources	CR-2 Prior to the initiation of grading, the contractor shall organize a preconstruction meeting of all personnel scheduled to work on the grading and construction phases of the project. The purpose of this meeting will be a Worker's Education Program to instruct the work force about the cultural resources associated with the project, the sensitivity of these resources to the local Native American community, and the protocols to be followed should any workers encounter artifacts during work on the project. The consulting archaeologist shall conduct the Worker's Education Program.	Prior to the Initiation of Grading	BBVRPD, Archaeologist, Contractor	County Special Districts
V (b) Cultural Resources	CR-3 Isolates and clearly non-significant deposits will be documented in the field but will not be subjected to data recovery mitigation.	During Construction	BBVRPD, Contractor, Archaeologist	County Special Districts
V (b) Cultural Resources	CR-4 In the event that previously unidentified and potentially significant cultural resources are discovered, the monitoring archaeologist shall have the authority to divert or temporarily halt ground disturbance operations at the specific location of the discovery to review and assess the	During Construction	BBVRPD, Contractor, Archaeologist	County Special Districts



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Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
	<p>discovery. This temporary diversion of work shall be as brief as possible; however, if a discovery is confirmed, the supervising archaeologist shall report this to the project manager and the Lead Agency representative. The discovery location shall be secured from further disturbance to allow evaluation of potentially significant cultural resources. The Consulting Archaeologist, in consultation with the lead agency, shall determine the significance of the discovered resources and appropriate measures to reduce the effect of the grading impacts to the resource. For any significant cultural resources discovered during monitoring of grading, further mitigation measures (data recovery) will be necessary to complete the impact mitigation. A detailed description of additional mitigation measures will be prepared by the consulting archaeologist and approved by the lead agency, prior to implementation. If any human remains are discovered, the County Coroner shall be contacted (see MM-CR-6). In the event that the remains are determined to be of Native American origin, the most likely descendants (MLDs) shall be contacted to determine proper treatment and disposition of the remains.</p>			
V (b) Cultural Resources	<p>CR-5 Any artifacts collected during the grading monitoring program shall be processed and curated according to current professional repository standards and as required by the environmental policies and guidelines of the lead agency. The collections and associated records shall be transferred, including title, to the San Bernardino County Museum, to be accompanied by payment of the fees necessary for permanent curation.</p>	During Construction	BBVRPD, Archaeologist	County Special Districts



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Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
V (d) Cultural Resources	<p>CR-6</p> <p>In the event of the discovery or recognition of any human remains in any location other than a dedicated cemetery, protocols and procedures noted in the Public Resources Code Section 5097.98, the California Government Code Section 27491, and the Health and Safety Code Section 7050.5 for the treatment of human remains encountered at archaeological sites will be followed. The procedures listed below shall be followed where human remains are encountered:</p> <ul style="list-style-type: none"> • There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: • The Coroner is contacted to determine that no investigation of the cause of death is required, and • If the Coroner determines the remains are Native American the Native American Heritage Commission (NAHC) shall be contacted within 24 hours. NAHC will identify the person or persons it believes to be the most likely descended from the deceased Native American. The Most Likely Descendent (MLD) may make recommendations to the County for the excavation work. • The Native American human remains and associated funerary items that are removed from the Project APE may be reburied at a location mutually agreed upon by the Applicant, Lead Agency, and the MLD(s). If reinterment of human remains cannot be accomplished at the time of discovery, the MLD(s) shall either take temporary possession of the remains or identify a location for the temporary but secure storage of the remains. 	During Construction	BBVRPD, Contractor	County Special Districts



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Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
	<ul style="list-style-type: none"> In consultation with the lead agency, the Consulting Archaeologist, and the MLD, additional measures, such as focused archaeological excavations, may be required to determine the extent of burials or ensure the recovery of all elements of the burial. 			
VIII (b) Hazards and Hazardous Materials	<p>HAZ-1 Prior to commencement of demolition of the existing zoo facility, a work plan will be prepared to assess the site for building materials that may contain asbestos such as flooring or ceiling tiles, cement wallboard or siding, cement pipes, fireproofing materials, etc must be completed. If the findings of this assessment are positive and asbestos-containing materials are found to have been used in construction of the existing facility, remediation of any materials found on-site must be completed prior to the start of demolition of those buildings that may have asbestos-containing materials. Likewise, testing of painted surfaces for lead is also required. Materials shall be removed by a licensed company and taken to an approved landfill for disposal. The work plan will be reviewed and approved by the San Bernardino County Fire Department, Hazardous Materials Division, the local Certified Unified Program Agency (CUPA).</p>	Prior to the Start of Demolition	BBVRPD, Contractor	San Bernardino County Fire Department, Hazardous Materials Division, the local Certified Unified Program Agency (CUPA)
IX (a) Hydrology and Water Quality VI (b) Geology/Soils	<p>WQ-1 Construction BMPs outlined in the SWPPP and operational BMPs outlined in the project's WQMP will ensure that pollutants associated with construction and operations will be controlled and no further mitigation is required.</p>	During Construction and Operation	Contractor, BBVRPD	County Special Districts, County Public Works



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Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
XVII (a) Utilities and Service Systems				
XII (a) Noise	<p>NOI-1</p> <p>In order to comply with the City of Big Bear Lake's Municipal Code Section the following items will be added to all grading and construction plans:</p> <ul style="list-style-type: none"> • The construction contractor should ensure that all construction equipment, fixed or mobile, is properly operating and tuned-up, and that mufflers are working correctly. All sound-reducing devices on the equipment shall be maintained throughout the construction period. • The construction contractor shall ensure that all construction equipment, including but not limited to staging areas and stationary equipment, is located so that emitted noise is directed away from the nearest residential buildings. • The construction contractor should ensure that stockpiling and vehicle staging areas are located as far away as practical from the nearest residential buildings. • All property owners within 500-feet of the construction site should be mailed a notice regarding the construction schedule of the proposed project. A sign, legible at a distance of 50-feet shall also be 	During Construction	BBVRPD, Contractor	County Special Districts, County Code Enforcement



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Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
	<p>posted at the construction site. All notices and signs should indicate the dates and duration of the construction activities, as well as provide a telephone number where property owners, residents, and business owners can inquire about the construction process and register any complaints.</p> <ul style="list-style-type: none"> • A “noise disturbance coordinator” should be established. The noise disturbance coordinator is responsible for responding to any local complaints about construction noise. The noise disturbance coordinator would determine the cause of the noise complaint (e.g. starting too early, bad muffler, etc.) and would be required to implement reasonable measures to resolve the complaint. All notices that are sent to the property owners within 500-feet of the construction site and all signs posted at the construction site should list the telephone number for the noise disturbance coordinator. • Noise generated from construction, maintenance, or demolition activities which is unusually loud, excessive, raucous or disturbing at or beyond the property line of the site on which the activity is occurring is not permitted between the hours of 7:00 p.m. and 7:00 a.m., or on Sundays or National holidays, except as approved by the City of Big Bear Lake Chief Building Official based on a determination that the work to be performed will not have an adverse effect on the public health, safety and welfare, or that the work is necessary to correct a 			



Big Bear Alpine Zoo Relocation Mitigation Monitoring and Reporting Plan



Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
	potentially harmful or adverse situation.			
XII (c), (d) Noise	NOI-2 With the recommended noise barriers identified in Table 25 of the Initial Study, the proposed BBAZ noise levels would be reduced to less than significant noise levels at the nearest residences. The mitigated noise level would comply with the County's nighttime noise limit of 45 dBA. The noise levels with and without mitigation are presented in Table 25 of the Initial Study. The noise barriers must have a surface density of at least 3.5 pounds per square foot, and shall be continuous and have no openings or gaps. The walls may be constructed of stud and stucco, 3/8 inch plate glass, 5/8 inch plexiglass, any masonry material, earthen berm, or a combination of these materials.			
XVI (a), (b) Transportation/ Circulation	TIA-1 Modify the signalized intersection of Stanfield Cutoff (NS) and Big Bear Boulevard (SR-18) (EW) to include the following geometrics: <ul style="list-style-type: none"> • Northbound: one shared left and through lane; one right-turn lane. • Southbound: one shared left and through lane; one right-turn lane (overlap phase). • Eastbound: one left-turn lane; one through lane; one right-turn lane. • Westbound: one left-turn lane; one through lane; one shared through and right-turn lane. 	During Construction	Contractor, BBVRPD	County Special Districts
XVI (a), (b) Transportation/	TIA-2 The TIA also recommended a number of Safety and Operational Improvements that will be incorporated into	During Construction	Contractor, BBVRPD	County Special Districts



Big Bear Alpine Zoo Relocation Mitigation Monitoring and Reporting Plan



Impact	Mitigation Measure	Timing of Compliance	Responsible Party	Monitoring Party
Circulation	<p>the BBAZ project:</p> <ul style="list-style-type: none"> • Install a flashing beacon at the pedestrian crosswalk connecting the project site with the parking lot north of Moonridge Road to increase crosswalk visibility and safety. • Conduct an engineering study to determine the need for a traffic control signal at the pedestrian crosswalk per California Manual of Uniform Control Devices (California MUTCD). • Review the sight distance at the pedestrian crosswalk with respect to standard City of Big Bear Lake sight distance standards at the time of preparation of final grading, landscape and street improvement plans. • Participate in the phased construction of off-site traffic signals through payment of project's fair share of traffic signal mitigation fees. • Implement signing/striping in conjunction with detailed construction plans for the project site. 			
XVI (a), (b) Transportation/ Circulation	<p>TIA-3</p> <p>The project will participate in the cost of off-site improvements through payment of Capital Improvement Program (CIP) fees. These fees should be collected and utilized as needed by City of Big Bear Lake to construct the improvements necessary to maintain the required level of service.</p>	Prior to Obtaining Building Permits	BBVRPD	County Special Districts, City of Big Bear Lake

APPENDIX C.5 Jurisdictional Delineation

FINAL Report

Jurisdictional Delineation of Waters and Wetlands

Moonridge Animal Relocation Project

Prepared for
Altum Group

Erinn Johnson, LEED AP



November 4, 2012

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1. INTRODUCTION

1.1 PROJECT DESCRIPTION

Big Bear Valley Parks and Recreation District proposes to relocate the existing Moonridge Animal Park, which is currently located on a leased 2.5-acre site in the Moonridge area of Big Bear Valley within the city of Big Bear Lake, CA. The zoo is adjacent to the Bear Mountain Ski Resort, Big Bear Mountain Golf Course, and is within an otherwise primarily residential neighborhood. Founded in 1959, Moonridge Animal Park is San Bernardino County's only zoo and is one of only two alpine zoos in the nation. The animal park provides for the care, rehabilitation, and when possible, the release of injured, orphaned, or confiscated animals back into the wild. Animals come from the general public, other zoos, and State, County or federal agencies. The County is now proposing to relocate the Moonridge Animal Park to a 10.4-acre property approximately .25 mile north of the existing facility, adjacent to the Big Bear Mountain Golf Course, at the intersection of Moonridge Road and Club View Drive. Rathbun (also known as Rathbone) Creek bisects the proposed site.

Development of the project site includes grading and site preparation. The site design leaves Rathbun Creek and its plant community almost entirely undisturbed, except for two pedestrian bridges that will span the creek but will require some plant trimming and removal. Potential impacts to the creek are minimized by keeping all grading activities at least 12 feet away from the dripline of the trees in the creek. Approximately 25,000 cubic yards of fill material will be imported in order to raise the exhibit areas out of the flood zone (by an average of 3 feet above existing grade). Imported soil will be brought on site as grading is underway and may be stockpiled for short periods of time. Stockpiling would occur outside of the creek, with appropriate erosion control containment in place, and would not result in any impacts to the creek. The site will be prepared by first clearing and grubbing to remove debris and vegetation (except along Rathbun Creek), then overlaid by fill material to raise the site; and then graded to establish building pads for exhibits and other site uses such as the parking lot, landscape and hardscape areas, and for the proper installation of infrastructure. During grading the site will be over-excavated and compacted in order to create a stable site on which to develop the MAP.

Water Quality Basins

Grading also includes the development of two water quality basins on site. In addition, a third water quality basin will be developed in the parking lot at the intersection of Moonridge Road and Club View Drive. The purpose of the basins is to provide sufficient capacity to capture and treat stormwater runoff that enters or is generated within the project area, including the parking lot. The basins will serve as stormwater detention basins as required by the County's Water Quality Management Plan and must be constructed to conform to the County's Best Management Practices (BMP) and the requirements for discharge in accordance with the regulations of the Regional Water Quality Control Board, Santa Ana Region (RWQCB). The basins will be constructed in accordance with all County Public Works construction standards, guidelines and specifications.

Nuisance water (irrigation runoff, enclosure washing waste, hosing down hardscape areas, etc.) generated within the project area will be conveyed to the basins for treatment prior to discharge into a water of the State/United States (Rathbun Creek). Treatment of nuisance water will be natural using sustained detention times and native plant materials to treat the water. Each basin will be sized to capture the initial overflow generated during a 100-year storm event. A concrete low-flow outlet structure and outfall pipes will effectively meter the outflow from the basins into Rathbun Creek. A sedimentation basin will be incorporated into each basin to trap particulates before the runoff reaches the outlet structure. The sedimentation basin will be planted with plant species that act as a bio-filter to trap and utilize the sediment as nutrition. Water quality will be monitored after storm events and the basins will require routine maintenance to remove excess sediment for offsite use/disposal. A small model backhoe may be used for sediment removal, utilizing straw matting to contain the sediment if not placed directly into a transport vehicle for offsite usage or disposal.

Bridge Crossings

Project development also includes construction of two approximately 20-foot wide raised bridge crossings to span Rathbun Creek. No piers or pilings would be placed in the creek and bridge construction would occur to avoid any impacts to the creek. The Project will also include development of a sidewalk and perimeter wall along Moonridge Road that will result in minimal impacts to Rathbun Creek at the northern extent of the creek within the Project boundary.

Stormflow Maintenance

Finally, according to the Hydrology Study prepared for the proposed MAP there is a small increase in the peak flow rate of Rathbun Creek related to project development. The increase is 3, 3, and 1 cfs for the 10-, 25-, and 100-yr, 24-hr design storm events. Therefore, the County is proposing to conduct maintenance activities in Rathbun Creek. This activity would consist of trimming of invasive, low level brush that would impede storm flows (and potentially cause flooding) if left in place, and removal of debris that might be deposited by storm flows but would not include removal of any willows or other trees in the stream channel. Maintenance would be done by a crew using hand tools and no mechanical equipment would be used. Maintenance would be limited to pre- and post-rainy season only. This maintenance would be accomplished outside of the nesting season to avoid any impacts to nesting birds.

1.2 LOCATION

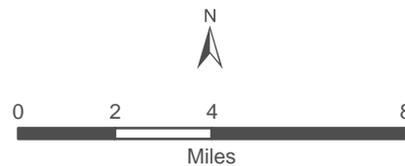
The proposed animal park relocation site is regionally located approximately 40 miles northeast of the City of Redlands, in the City of Big Bear Lake, approximately two miles south of the lake in the San Bernardino Mountain (Exhibit 1: Regional Map). The site is an approximately 10.4-acre vacant parcel located within the City of Big Bear Lake, CA at the corner of Moonridge Road and Club View Drive, approximately one mile north of its current location. It is located in Section 22, Township 2 North, Range 1 East of the United States Geologic Survey (USGS) Moonridge topographic map (Exhibit 2: Vicinity Map). Surrounding land uses at the proposed relocation site are commercial and residential to the north, residential to the east and west, and a golf course to the south. This new location is similar to that of the existing facility, which is currently located in a residential/commercial neighborhood directly across the street from the Bear Mountain Ski Resort.

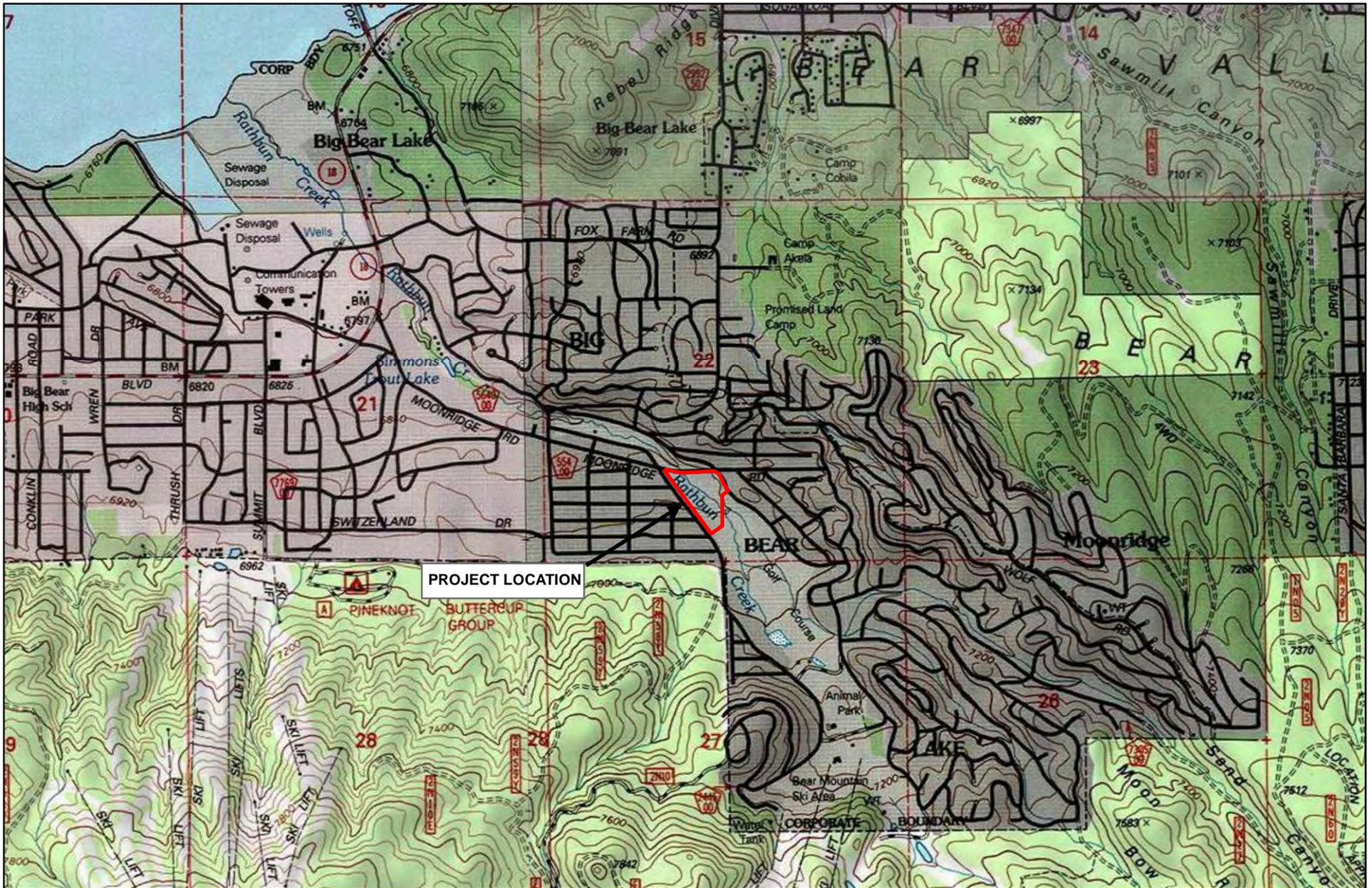


PROPOSED MOONRIDGE ZOO SITE

Exhibit 1 - Regional

Source: ESRI Basemaps, State Plane 5 NAD 83
 Prepared by K. Kartunen, GLA. May 2, 2012

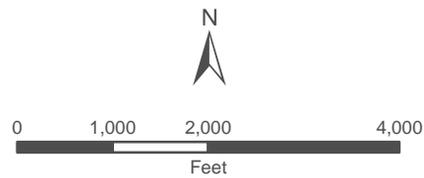




PROPOSED MOONRIDGE ZOO SITE

Exhibit 2 - Vicinity

USGS Quadrangle Moonridge, CA - State Plane 5 NAD 83
 Prepared by K. Kartunen, GLA. May 2, 2012



1.3 PURPOSE AND NEED

Section 404 of the federal Clean Water Act (CWA) prohibits the discharge of dredge or fill material into federal waterways (“waters of the United States”) without authorization for the activity from the United States Army Corps of Engineers (USACE). Similarly, Section 1600 of the California Fish and Game Code prohibits alteration of a streambed or lake (“waters of the State”) without prior authorization from the California Department of Fish and Game (CDFG).

Because the project may impact a regulated surface water drainage (i.e., Rathbun Creek) for development of two bridge crossings and some maintenance in the creek to maintain optimal flood flows, an evaluation of the USACE jurisdiction, pursuant to Section 404 of the federal CWA, and CDFG jurisdiction, pursuant to Section 1600 of the Fish and Game Code, is required in a Jurisdictional Delineation Report. Where impacts to regulated surface waters occurs, mitigation measures, such as avoidance, minimization, and/or enhancement measures, are required at a level acceptable to the permitting agencies.

The primary purpose of this Jurisdictional Delineation is to document location and extent of existing waters/wetlands subject to USACE and CDFG jurisdiction at the Project site for purposes of determining potential impacts.

2. REGULATORY FRAMEWORK

2.1 FEDERAL REGULATIONS

2.1.1 FEDERAL CLEAN WATER ACT (CWA)

The federal CWA seeks to restore and maintain the chemical, physical, and biological integrity of the nation's water. The act sets up a system of water quality standards, discharge limitations, and permit requirements as per Sections 401, 402, and 404 of the CWA (described below).

2.1.1.1 SECTION 401

Section 401 of the CWA, governed by 33 United States Code (USC) 1341 and 40 Code of Federal Regulations (CFR) 121 and administered by the State Regional Water Quality Control Board (SWRCB), requires a water quality certification from the SWRCB or the Regional Water Quality Control Board (RWQCB) when a project requires a federal license or permit (such as a Section 404 permit); and results in a discharge to waters of the United States (except dredge or fill material).

The RWQCB establishes regional water quality standards and implements water policy on a regional basis, pursuant to Section 401 of the CWA. Historically, the RWQCB regulated water quality of designated “waters of the United States”¹ with similar jurisdiction as the United States Corps of Engineers (USACE). Now the RWQCB also asserts jurisdiction over “isolated” water features, as a result of the Solid Waste Agency of Northern Cook County (SWANCC) decision and pursuant to the Porter-Cologne Water Quality Act, as described below.

In the *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers*, 531 U.S. 159 (2001) (SWANCC) case, the Supreme Court upheld a decision that the USACE could not regulate isolated, intrastate waters that do not bear a “significant nexus” to traditional navigable waters (at least in most cases). On January 15, 2003, the Environmental Protection Agency (EPA) issued formal guidance for USACE in determining jurisdiction in light of the SWANCC ruling. In the Joint Memorandum, EPA concluded that USACE field staff should not assert jurisdiction over isolated waters that are both intrastate and non-navigable, where the only basis for the assertion is the Migratory Bird Rule. Where a wetland is found to be “adjacent” to a navigable water or tributary to a navigable water, EPA concluded that USACE field staff should assert jurisdiction (EPA, 2003).

Subsequent to this ruling, in 2004, the SWRCB issued Water Quality Order No. 2004-0004-DWQ, entitled “*Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction (General WDRs)*”, asserting responsibility over “isolated” wetlands citing their jurisdiction over “waters of the

¹ “Waters of the United States” as defined by 33 CFR Part 328

State²” under the Porter-Cologne Water Quality Act (described below in the State Regulation and Policy Section). Consequently, discharge of fill material into “waters of the State” not subject to the jurisdiction of the USACE pursuant to Section 404 of the CWA may require authorization pursuant to the Porter Cologne Water Quality Act through application for Waste Discharge Requirements (WDRs) or through a waiver of WDRs.

The 401 permitting authority is delegated to, and administered by, nine RWQCBs: North Coastal, San Francisco, Central Coast, Los Angeles, Central Valley, Lahontan, Colorado River, Santa Ana, and San Diego regions. To obtain a Section 401 Water Quality Certification, a project must be in compliance with the California Environmental Quality Act (CEQA). The Santa Ana RWQCB has jurisdiction over the MAP project.

2.1.1.2 SECTION 402

Section 402 of the Clean Water Act (CWA), governed by 33 USC 1342 and 40 CFR 122-125, 403 and administered by the SWRCB, establishes a National Pollutant Discharge Elimination System (NPDES) permit for municipal and construction discharge of any point³ or non-point⁴ sources (except dredge or fill material) into waters of the United States.

Municipal Separate Storm Sewer System (MS4)

The 1972 amendments to the federal Water Pollution Control Act, now referred to as the Clean Water Act, prohibit the discharge of any pollutant to navigable “waters of the U.S.” from a point source unless the discharge is authorized by a NPDES Permit. Stormwater discharges were added to the scope of the law by Congress in 1987. The NPDES stormwater program regulates stormwater discharges from three potential sources: municipal separate storm sewer systems (known as “MS4s”), construction activities, and industrial activities. Operators of these sources may be required to obtain an NPDES permit before they can discharge. This permitting mechanism is designed to prevent stormwater runoff from washing harmful pollutants into local surface waters such as streams, rivers or coastal waters. Most states are authorized to implement the NPDES stormwater program and to administer their own stormwater permitting programs. In California, the NPDES program is administered by the SWRCB through the nine Regional Water Quality Control Boards (RWQCBs).

The U.S. EPA defines a Municipal Separate Storm Sewer System (MS4) as any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, country, or other public body having jurisdiction over storm water, that are designed or

² “Waters of the State” as defined in Water Code section 13050(e)

³ Section 502(14) of the Clean Water Act defines “point source” as any “discernible, confined and discrete conveyance, including but not limited to, pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft” that may result in polluted effluent. This term does not include agricultural storm water.

⁴ Non-point source pollution can include, but is not limited to, pesticides, herbicides, and insecticides; fertilizers; oil, grease, and toxic chemicals; sediment; salt from irrigation practices and acid drainage from abandoned mines; bacteria and nutrients from livestock, pet waste and septic tanks; atmospheric deposition; and hydromodification.

used for collecting or conveying storm water. As an element of the NPDES program, U.S. EPA initiated a program requiring that entities having MS4s apply to their local RWQCBs for storm water discharge permits. The program proceeded through two phases. Under Phase I, the program initiated permit requirements for designated municipalities with populations of 100,000 or greater. Phase II expanded the program to municipalities with populations less than 100,000.

General Construction Permit

Under Section 402 of the federal CWA, the SWRCB issued a *NPDES General Permit for Storm Water Discharges Associated with Construction Activity* (Water Quality Order 99-08-DWQ, referred to as the “General Construction Permit”). In California, the NPDES permitting authority is delegated to, and administered by, the nine RWQCBs.

The State’s General Construction NPDES Permit regulates stormwater discharges from construction and demolition activities including, but not limited to, demolition/dismantling, clearing, grading, grubbing, or excavation or any other activity that results in land disturbance of one or more acres. It prohibits the discharge of pollutants other than stormwater and authorized non-stormwater discharges, including all discharges which contain hazardous substances in excess of reportable quantities established at Title 40 CFR Sections 117.3 or 302.4, unless a NPDES permit has been issued to regulate those discharges. In addition, the State’s General Construction NPDES Permit incorporates discharge prohibitions contained in the basin Water Quality Control Plan, prohibits discharges to Areas of Special Biological Significance, and prohibits the discharge of stormwater that causes or threatens to cause pollution, contamination or nuisance.

The General Construction Permit requires all dischargers, where construction activity disturbs one or more acres to develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that would include:

- Implementation Best Management Practices (BMPs) to control pollutants in stormwater discharges;
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the United States;
- Perform inspections of all BMPs; and
- Reach final site stabilization.

The SWPPP has two major objectives:

- To help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges; and
- To identify and ensure the implementation of practices to minimize sediment and other pollutants in stormwater discharges.

Dischargers are required to annually certify that they are in compliance with the State’s General Construction NPDES Permit.

To comply with the State’s General Construction Permit, the San Bernardino County Flood Control District, the County and the 16 incorporated cities in the Santa Ana River watershed within the County, are partners or co-permittees under a stormwater discharge permit issued by the State of California through the Santa Ana Regional Water Quality Control Board (Order No. R8-2010-0036, NPDES No. CAS618036) in 2010.

2.1.1.3 SECTION 404

Activities that have the potential to discharge fill materials into waters of the United States, including adjacent wetlands, are regulated under Section 404 of the CWA, governed by 33 USC 1344 and 33 CFR 323, and administered by United States Army Corps of Engineers (USACE). Fill activities may be permitted by a Nationwide or Individual Permit. The Nationwide Permit (NWP) Program involves certain activities that have been preauthorized by USACE because USACE has determined that such activities would have minimal individual and cumulative adverse effect on the aquatic environment. In order to qualify for an NWP, a project cannot impact greater than 0.5 acre of Waters of the U.S. There are currently 50 NWPs authorized for use by USACE. NWP applications typically involve submittal of a Preconstruction Notification (PCN) to USACE for review and discretionary approval by USACE, which typically takes between 60 and 90 days from submittal of a complete application. The Individual Permit (IP) program applies to projects that do not meet the significance thresholds or general permit conditions of the NWP program.

A typical case for an IP is when the anticipated impact to waters of the U.S. exceeds 0.5 acre. Applications are submitted to USACE and generally take up to 6 months for permit issuance, which involves conformance with the National Environmental Policy Act (NEPA). Under Section 404 (b)(1) guidelines, permittees are allowed to discharge dredged or fill material into the aquatic system only if there is no practicable alternative that will have fewer adverse impacts. New recent court cases have challenged USACE’s traditional interpretation of the CWA regulations. These decisions have had the overall net effect of (1) calling into question the regulation of “waters” that are otherwise “isolated,” and (2) the jurisdiction of dry ephemeral washes, in particular, washes that do not have a “significant nexus” with downstream navigable waters. Below is a summary of the court decisions that may affect the determination of jurisdictional limits at the project site:

Solid Waste Agency of Northern Cook County v. Army Corps of Engineers, 531 U.S. 159 (2001) (SWANCC): In this decision, the Supreme Court upheld a decision that USACE could not regulate isolated, intrastate waters that do not bear a “significant nexus” to traditional navigable waters (at least in most cases).

On January 15, 2003, EPA issued formal guidance for USACE in determining jurisdiction in light of the SWANCC ruling. In the Joint Memorandum, EPA concluded that USACE field staff should not assert jurisdiction over isolated waters that are both intrastate and non-navigable, where the only basis for the assertion is the Migratory Bird Rule. Where a wetland is found to be “adjacent” to a navigable water or tributary to a navigable water, EPA concluded that USACE field staff should assert jurisdiction (EPA, 2003).

Rapanos v. United States and Carabell v. Army Corps of Engineers, Nos. 04-1034 and 04-1384 (2006) (Rapanos/Carabell): A four-vote plurality found that USACE could regulate “only those relatively permanent, standing or continuously flowing bodies of water ‘forming geographic features,’” such as streams, oceans, rivers, and lakes where the presence of water was the ordinary condition. Wetlands with a “continuous surface connection” to such bodies of water also could be regulated.

On June 5, 2007, EPA issued guidance for the Supreme Court’s decision in the Rapanos/Carabell court case. In summary, EPA will assert jurisdiction over (1) traditional navigable waters, (2) wetlands adjacent to traditional navigable waters, (3) non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (typically 3 months), and (4) wetlands that directly abut such tributaries.

Jurisdiction over the following waters will be based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water: (1) non-navigable tributaries that are not relatively permanent, (2) wetlands adjacent to non-navigable tributaries that are not relatively permanent, and (3) wetlands that are adjacent to – but do not directly abut – a relatively permanent non-navigable tributary (EPA, 2007).

2.2 STATE REGULATIONS

2.2.1 CALIFORNIA FISH AND GAME CODE, SECTION 1600

Section 1600 of the California Fish and Game Code (*Fish and Wildlife Protection and Conservation: Streambed Alteration Agreements*) protects fish and wildlife resources associated with water courses, and regulates the alteration of the bed, bank, or channel of a stream, river, or lake, including dry washes. Generally, CDFG asserts jurisdiction up to the top of bank cuts or to the outer limit of any riparian vegetation associated with a watercourse. Obtainment of a Streambed Alteration Agreement (SAA) from the CDFG is required if a project will result in physical alteration of the bed or bank of a stream. The SAA specifies conditions and mitigation measures to minimize impacts to riparian resources from proposed actions.

CDFG maintains state responsibility under the California Environmental Quality Act (CEQA) and the California Endangered Species Act (CESA) to comment on potential impacts to special-status species. CDFG is responsible for project compliance with the CESA and must be consulted if impacts to state-listed species are likely to occur.

2.2.2 CALIFORNIA WATER CODE

The state enforces federal water quality protection programs for which they have been delegated authority under the California Water Code and implementing regulations. The 1969 Porter-Cologne Water Quality Control Act established the State Board and nine Regional Boards to oversee the protection of water quality and beneficial uses of state waterways (“waters of the State”), and it

required each Regional Board to develop water quality basin plans to promote the protection, enhancement, and/or recovery of the quality of water in these waterways. The basin plan identifies surface and groundwater quality standards and total maximum daily loads (TMDLs) for several known pollutants. Under the Porter-Cologne Act, the State Board is responsible for adopting water quality standards as required to fulfill the state responsibilities under the CWA (Sections 401 and 402). Water Code Section 13050 (e) defines "waters of the State" as any surface water or groundwater, including saline waters, within the boundaries of the state.

The State Water Resources Control Board has issued *Water Quality Order No. 2004-0004-DWQ, entitled "Statewide General Waste Discharge Requirements For Dredged Or Fill Discharges To Waters Deemed By The U.S. Army Corps Of Engineers To Be Outside of Federal Jurisdiction (General WDRs)"*, issued in 2004 in response to changing federal guidelines and requirements. Under this Order, which covers waters of the State deemed not to be waters of the United States, dredged or fill discharges cannot be more than 0.2 acre; 400 linear feet for fill or excavation discharges (measured parallel to the streambank), and not more than 50 cubic yards for dredging discharges. The order requires mitigation for permanent impacts only. The Notice of Intent (NOI) for coverage under the General WDRs needs to be submitted to the Regional Board at least 45 days to any anticipated discharge. A fee is required, and also a mitigation plan is required to be submitted along with the NOI. For those projects which exceed thresholds for the General WDRs, an Individual WDR permit process is available.

3. METHODOLOGY

3.1 STANDARDS AND GUIDELINES

3.1.1 USACE DEFINITION OF WATERS OF THE U.S. AND WETLANDS

The following primary documents were utilized in determining the presence or absence of drainage features or wetlands considered “jurisdictional” by USACE standards:

- *Wetland Delineation Manual* (USACE, 1987)
- *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (USACE, 2010)

Waters of the United States

Waters of the United States, as defined in 33 CFR 328.3, include all waters or tributaries to waters such as lakes, rivers, intermittent and perennial streams, mudflats, sand flats, natural ponds, wetlands, wet meadows, and other aquatic habitats.

Within non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction is defined by the Ordinary High Water Mark (OHWM). In 33 CFR 328.3, the OHWM is defined as the “line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, or the presence of litter and debris” (USACE, 1987). Generally, USACE considers the OHWM to be the elevation to which water flows at a 2-year frequency (i.e., 50 years out of 100 years). Typically, in this area, the OHWM is indicated by the presence of an incised streambed with defined bank shelving.

Wetlands

Wetlands are defined as areas that are “inundated by surface water or groundwater with a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Wetlands under the jurisdiction of USACE generally include “swamps, marshes, bogs, and similar areas” (40 CFR 230.3 and CFR 238).

According to the federal manual for identifying and delineating jurisdictional wetlands (USACE, 1987), three criteria must be satisfied to classify an area as a jurisdictional wetland. These are: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology). Wetland vegetation is characterized by vegetation in which more than 50 percent of the composition of dominant plant species are obligate wetland, facultative wetland, and/or facultative species that occur in wetlands.

3.1.2 REGIONAL BOARD WATERS OF THE STATE

The Regional Board asserts jurisdiction over state waterways under Section 401 of the Clean Water Act, and the Porter Cologne Act. The Regional Board normally asserts jurisdiction to the same limits as the USACE, through federal nexus under the Clean Water Act. However, the Regional Board also asserts jurisdiction over "isolated" or minor waterways which may be excluded as waters of the U.S. under SWANCC or Rapanos/Carabell.

3.1.3 CDFG DEFINITION OF STREAMBED AND BANK

CDFG jurisdiction is defined by Section 1600 *et seq.* of the California Fish and Game Code as "any bed, channel, or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit." Typically, CDFG takes jurisdiction to the top of the bank along significant stream courses, or the outside of riparian vegetation where substantial riparian vegetation exists.

Section 1602 of the California Fish and Game Code mandates that it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity. CDFG jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) characterized by: (1) the presence of hydrophytic vegetation, (2) the location of definable bed and banks, and (3) the presence of existing fish or wildlife resources. CDFG does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

3.2 PRELIMINARY DATA COLLECTION

Prior to the jurisdictional delineation field survey, Erinn Johnson, Senior Regulatory Specialist, and Tony Bomkamp, Senior Biologist, reviewed all available project planning documents, including *Moonridge Animal Park Relocation Project: General Biological Resources Assessment, Rare Plant Survey and Focused Southwestern Willow Flycatcher Survey* (Tanner Environmental Services, 2011), maps, aerial photos, preliminary grading plan of the proposed Project, and Moonridge United States Geological Survey (USGS) 7.5-minute quadrangle map to identify drainage features as indicated from topographic changes, visible drainage patterns, or blue-line streams. The United States Department of Agriculture Soil Survey Map was reviewed to identify the soil series that occur on the Project Site. The topographic base map and a preliminary hydrology study for the proposed project were also reviewed to identify hydrological features within the Project Site.

3.3 FIELD INVESTIGATION

Erinn Johnson and Tony Bomkamp conducted a field survey of the project site on February 23 and July 3, 2012. The surveys included a determination of USACE and CDFG jurisdiction; excavation of soil pits; and identification of vegetation communities and individual plant species.

Utilizing methodology discussed in Section 4.1, USACE non-wetland waters of the United States were determined by identifying the physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris. The presence of USACE wetlands were determined by the presence of three parameters, hydrology, hydrophytic vegetation, and hydric soils. Verification of CDFG jurisdictional streambed and bank consisted of walking the site to confirm the limits of significant surface stream and drainage channels, top of stream banks, and the outer limit of riparian vegetation associated with stream banks.

4. RESULTS

The following section describes the jurisdictional delineation area and impacts, including findings related to vegetation communities, topography and soils, hydrology, and wetlands for each of the onsite drainage features. Appendix A contains photos of Rathbun Creek at key locations.

4.1 NON-JURISDICTIONAL UPLAND AREAS

On-site upland areas to the west and east of Rathbun Creek, including the dry meadow montane, sagescrub meadow, and disturbed sagescrub converted to grassland areas, were surveyed for physical indication of jurisdictional drainage features, including but not limited to, presence of OHMW, bed and bank, or swales. No drainage features were observed in these upland areas.

In addition, areas meeting USACE-criteria for wetlands (i.e., predominance of hydrophytic vegetation, hydric soils, and wetland hydrology) don't occur in any of the upland areas west or east of Rathbun Creek. Please refer to USACE wetland determination forms 1-11 in Appendix B for a review of test plots of upland vegetation, soils, and hydrology.

4.2 JURISDICTIONAL AREAS

Rathbun Creek

The single jurisdictional feature on the proposed Moonridge Zoo property is Rathbun Creek, which is a perennial drainage that extends approximately 800 linear feet through the Project site, entering from the south at the adjacent Bear Mountain Golf Course and exiting to the north through an underground culvert at Moonridge Road.

Within the Project boundary, the creek is characterized by narrow braids of 3-5 feet in width within a larger channel that exhibits an OHWM of approximately 40 feet. At the time of the surveys, water was flowing and depths varied from a few inches to up to one foot in areas near the golf course.

The creek is dominated by arroyo willows (*Salix lasiolepis*, FACW) which have grown in thickets of erect and rather shrubby trees ranging from 10 to 20 feet tall forming a dense canopy over the flowing stream. The willow scrub is characterized by "thickets" with each willow thicket exhibiting numerous stems (ranging from 20 to 50 for each thicket). This vegetation dominates the drainage feature, except for the southern section where the creek enters the site and is vegetated with emergent marsh species, dominated by Baltic rush (*Juncus balticus*, OBL) and Nebraska sedge (*Carex nebrascensis*, OBL). The emergent marsh extends for about 125 feet before transitioning into dense willow scrub dominated by arroyo willow (*Salix lasiolepis*) with an understory of Baltic rush and Nebraska sedge. Please refer to USACE wetland determination forms 12-15 in Appendix B for a review of test plots of wetland vegetation, soils, and hydrology.

Rathbun Creek ultimately drains to Big Bear Lake, an USACE Traditionally Navigable water body. Therefore, it is regulated by USACE under Section 404 of the Clean Water Act. It is also regulated by CDFG under Section 1600 of the Fish and Game Code.

Wetlands

The dominant plant species within Rathbun creek are obligate wetland species: Arroyo willows (*Salix lasiolepis*, FACW), Baltic rush (*Juncus Balticus*, OBL), and Nebraska sedge (*Carex nebrascensis*, OBL). As such, Rathbun Creek meets the criteria for a predominance of hydrophytic vegetation. The primary indicators for hydric soils, including sulfidic odor, were detected within four test sites taken along the extent of Rathbun Creek. At these four locations the soil exhibits a matrix chroma of 10YR 2/1 and a sulfuric odor. Therefore, Rathbun Creek contains hydric soils. Rathbun Creek exhibits perennial hydrology and was saturated and inundated during field surveys. Therefore, the Rathbun Creek contains wetland hydrology.

Because of the creek’s hydrologic connection to Big Bear Lake and the presence of wetland criteria, it is regulated under Section 404 of the Clean Water Act as a wetland subject to the jurisdiction of the USACE. Rathbun Creek is also regulated as a riparian stream by the CDFG pursuant to Section 1602 of the California Fish and Game Code. USACE jurisdiction within Rathbun Creek is approximately 0.82 acres of wetlands. CDFG jurisdiction within the creek is approximately 1.33 acres of riparian habitat. Exhibit 3 and Table 1 demonstrate USACE and CDFG jurisdiction areas within Rathbun Creek.

Table 1: Existing Jurisdictional Areas

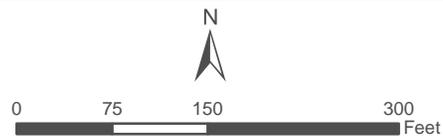
Drainage	USACE		CDFG	
	Non-wetland Waters (acres)	Wetland Waters (acres)	Non-wetland Waters (acres)	Wetland Waters (acres)
Rathbun Creek	0	0.82	0	1.33
Total	0	0.82	0	1.33



PROPOSED MOONRIDGE ZOO SITE

Exhibit 3 - Jurisdictional Areas

Aerial Source: ESRI Basemaps, State Plane 5 NAD 83
Prepared by K. Kartunen, GLA. September 4, 2012



1 inch = 150 feet

Athena Group
Environmental Planning Solutions

4.3 JURISDICTIONAL IMPACTS

The proposed Project would involve construction of two bridges over Rathbun Creek. Placement of the bridges would occur in two locations, with one near the northern boundary of the site and the other near the golf course at the south end of the site. The location where each bridge would span the drainage feature is depicted in Exhibit 4. The bridges would be up to 20 feet in width, including abutments. The bridges would be designed to span across the creek without placing fill within the OHWM or adjacent wetlands and the bridge would not cause alteration of any portion of the streambed or stream bank. No piers or pilings would be placed in the creek. Limited brush removal and trimming would occur to construct the 20-foot wide span bridge crossings. Because the work effort wouldn't result in dredge or fill activity, no permanent or temporary impacts to USACE jurisdiction are anticipated as a result of bridge construction.

Approximately 0.05 acres of permanent impacts to CDFG jurisdiction may occur as a result of vegetation removal for construction of the bridge crossings. The Project proponent plans to focus on trimming activity to enable bridge crossing construction and maintenance, with limited need for vegetation removal. However, because the potential for limited removal of vegetation may occur for bridge construction, the Project proponent will anticipate permanent impacts to allow for removal. Table 2 and Exhibit 4 illustrate impacts in Rathbun Creek for development of the Project. Exhibit 5 provides a soils map of the Project site.

Approximately 0.02 acres and 16 linear feet of permanent impacts would occur to USACE and CDFG jurisdiction within Rathbun Creek, at the northern extent of the creek adjacent to Moonridge Road, for the development of a sidewalk and perimeter wall.

In addition, in order to maintain consistent flows in Rathbun Creek, limited maintenance would occur along the reach of the drainage before and after the rainy season, and as necessary, into perpetuity. The purpose of the maintenance is to reduce low level brush that could impede the storm flows and remove debris that might be deposited by the storm flows. This would be accomplished outside of nesting season; would be done by hand, not by heavy equipment. No impacts to USACE or CDFG jurisdiction are anticipated for above-ground trimming and debris removal maintenance activity.

Table 2: Jurisdictional Impacts to Rathbun Creek

Drainage Impacts	Permanent Impacts		Temporary Impacts	
	USACE (acres/LF)	CDGF (acres)	USACE (acres/LF)	CDGF (acres)
Sidewalk	0.02ac/16lf	0.02ac	--	--
Bridge Crossings	--	0.05ac	--	--
TOTAL	0.02ac/16lf	0.07ac	--	--

LF – linear feet



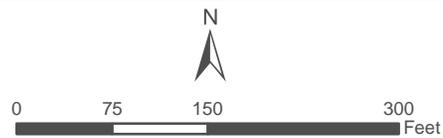
Legend

- Project Boundary
- Limit of Grading
- Raised Bridge Locations
- Corps Wetlands
- CDFG Riparian
- Corps Width in Feet
- Soil Pit Location

PROPOSED MOONRIDGE ZOO SITE

Exhibit 4 - Jurisdictional Impacts

Aerial Source: ESRI Basemaps, State Plane 5 NAD 83
 Prepared by K. Kartunen, GLA. September 4, 2012



1 inch = 150 feet





Legend

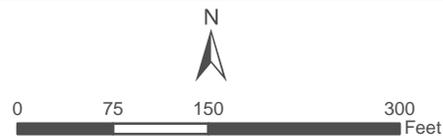
 Project Boundary

 BoD - Morical, very deep-Hecker families complex, 2 to 15 percent slopes

PROPOSED MOONRIDGE ZOO SITE

Exhibit 5 - Soils

Aerial Source: ESRI Basemaps, State Plane 5 NAD 83
Prepared by K. Kartunen, GLA. May 2, 2012



1 inch = 150 feet



5. PERMITS/CONDITIONS

5.1 USACE 404 PERMIT

Fill will be placed within the OHWM for construction of a sidewalk and perimeter wall along Moonridge Road. As such, the Project would impact USACE jurisdiction and a Section 404 permit would be required.

5.1.1 SECTION 401 WATER QUALITY CERTIFICATION

Because a Section 404 permit is required for Project development, the County must obtain a Section 401 Water Quality Certification from the Regional Water Quality Control Board.

The Project will also be subject to a Section 402 permit, which will address required stormwater quality BMP's at the site. Post-project storm flow quantity at the points of offsite discharge will be less than or equal to pre-project discharge quantity and velocity, per the standards County Flood Control requirements.

5.1.2 ENDANGERED SPECIES ACT (ESA) COMPLIANCE

In administering the Section 404 permitting program, the USACE is required to abide by Section 7(a)(2) of the Federal Endangered Species Act, which requires federal agencies to consult with the United States Fish and Wildlife Service (USFWS) "to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat." As a result, the presence of sensitive plant or animal species must be determined prior to submittal of the Section 404 application. This requirement is outlined in General Condition No. 11 - Endangered Species of the NWP Program.

Tanner Environmental Services performed *Moonridge Animal Park Relocation Project: General Biological Resources Assessment, Rare Plant Survey, and Focused Southwestern Willow Flycatcher Survey*, on September 29, 2011. The survey concluded that no plant or wildlife species listed as rare, threatened, or endangered pursuant to the Federal Endangered Species Act (FESA) are known or expected onsite.

In order to comply with the federal Migratory Bird Treaty Act (MBTA), nesting bird surveys will be conducted approximately three to five days prior to commencement of any site disturbance if construction is to take place during the nesting season, between February 15 through September 15. If nests are observed, buffer zones of 300 to 500 feet will be established around nesting birds until nesting is confirmed to have failed or fledglings are deemed sufficiently developed and independent. In general these buffer zones and protection for nesting birds under the MBTA remain in place between February 15 and September 15. If buffer zones are created around nest sites, monitors shall, at a minimum check nesting status on a weekly basis. Buffers can be removed and work can resume in the area once nests are determined to have failed or fledglings are sufficiently developed.

5.1.3 HISTORIC PRESERVATION ACT COMPLIANCE

The USACE, in administering the Section 404 permitting program, requires that any archaeological sites potentially affected by the proposed project be reported with the permit application, pursuant to the federal National Historic Preservation Act. A Phase I Cultural Resources Study for the Moonridge Animal Park Project was prepared by Brian Smith and Associates on February 14, 2012 (revised March 6, 2012). The study determined an absence of cultural resources on the Project site.

5.2 CDFG 1600 PERMIT

Approximately 0.07 acres of permanent CDFG jurisdiction will be impacted for development of a sidewalk and perimeter wall at the northern project boundary and construction of two bridge crossings, as depicted in Table 2 of Section 4.3. A CDFG Section 1600 agreement will be required prior to any removal of riparian habitat that is associated with the streambed. Mitigation to offset the potential impacts to waters of the state is proposed in Section 6 of this document.

6. MITIGATION MEASURES

6.1 AVOIDANCE, MINIMIZATION AND MITIGATION MEASURES

6.1.1 WATERS OF THE U.S./WATERS OF THE STATE

The Project proponent proposes to restore a total of 0.04 acres (2:1 ratio) of riparian and wetland habitat within Rathbun Creek for permanent impacts to USACE and CDFG jurisdiction associated with development of the sidewalk and perimeter wall along Moonridge Road. To mitigate for impacts to CDFG habitat associated with construction of the bridge crossings, the Project proponent proposes to restore 0.10 acres (2:1 ratio) of riparian and wetland habitat within Rathbun Creek. Details of proposed mitigation are provided below.

Sidewalk

The Project proponent proposes to restore 0.02 acres of permanent impacts to USACE wetlands and CDFG riparian habitat associated with development of a sidewalk and perimeter wall along Moonridge Road at a 2:1 ratio through the restoration of .04 acres of wetland habitat consisting of Baltic rush (*Juncus balticus*, OBL), Nebraska sedge (*Carex nebrascensis*, OBL), and arroyo willow (*Salix lasiolepis*) at the southern extent of Rathbun Creek, within the existing emergent wetland habitat discussed in Section 4.2 and in the vicinity of wetland data plot number 15.

Bridge Crossings

The proposed bridge crossings would be designed to span across the creek without placing fill within the OHWM or adjacent wetlands and the bridges would not cause alteration of any portion of the streambed or stream bank. No piers or pilings would be placed in the creek. Limited brush removal would occur to construct the 20-foot wide span bridge crossings. However, no impacts would occur to USACE jurisdiction resulting from this activity. The Project proponent plans to permanently impact approximately 0.05 acres of CDFG habitat for removal of riparian vegetation associated with construction of the bridge crossings. Please refer to Photo 5 of Appendix A for a depiction of the vegetation that may need to be removed for construction of the bridge crossings. Proposed mitigation for impacts to CDFG would occur within Rathbun Creek within existing emergent wetland habitat (as discussed above) at a 2:1 ratio or 0.10 acres.

Stormflow Maintenance

The County is proposing to conduct maintenance activities in Rathbun Creek. This activity would consist of trimming of invasive, low level brush that would impede storm flows (and potentially cause flooding) if left in place, and removal of debris that might be deposited by storm flows. This activity would not involve removal of any willows, sediment removal or dewatering. Maintenance would be done by a crew using hand tools and no mechanical equipment would be used. Maintenance would occur as-needed, as well as pre- and post-rainy/snow season, and would be accomplished outside of the nesting season to

avoid impacts to nesting birds. Trimming of vegetation and debris removal would not involve the use of fill material, removal of vegetation roots, or result in the alteration of streambed or bank. As such, no impacts to USACE or CDFG jurisdiction is anticipated and no mitigation is proposed.

6.1.2 WATER QUALITY

Construction

The Project will comply with the Clean Water Act Section 402 General Construction Permit, including development of and adherence to a Storm Water Pollution Plan (SWPPP) during construction.

Operation

Grading includes the development of two water quality basins on site. The basins will be 150 feet by 150 feet and 6 feet deep. The purpose of the basins is to provide sufficient capacity to capture and treat stormwater runoff that enters or is generated within the project area, including the parking lot. The background condition for the site without the project is 8,000 cfs. The project would add approximately 25 cfs from stormwater runoff and washdown water, so each of the on-site basins will be designed to hold about 10 cfs for up to 48 hours. In addition, a third water quality basin will be developed in the parking lot at the intersection of Moonridge Road and Club View Drive. This basin will be 75 feet by 75 feet and 4 feet deep, and will be designed to handle the remainder of 5 cfs. Finally, the outlet structure to the creek from the basins will be approximately 20 feet long and 12 feet wide and will be located 6 feet from the bank of the creek. The basins will serve as stormwater detention basins as required by the County's Water Quality Management Plan and must be constructed to conform to the County's Best Management Practices (BMP) and the requirements for discharge in accordance with the regulations of the Regional Water Quality Control Board, Santa Ana Region (RWQCB). The basins will be constructed in accordance with all County Public Works construction standards, guidelines and specifications.

Nuisance water (irrigation runoff, enclosure washing waste, hosing down hardscape areas, etc.) generated within the project area will be conveyed to the basins for treatment prior to discharge into a water of the State/United States (Rathbun Creek). Treatment of nuisance water will be natural using sustained detention times and native plant materials to treat the water. Each basin will be sized to capture the initial overflow generated during a 100-year storm event. A concrete low-flow outlet structure and outfall pipes will effectively meter the outflow from the basins into Rathbun Creek. A sedimentation basin will be incorporated into each basin to trap particulates before the runoff reaches the outlet structure. The sedimentation basin will be planted with plant species that act as a bio-filter to trap and utilize the sediment as nutrition.

Water quality will be monitored after storm events and the basins will require routine maintenance to remove excess sediment for offsite use/disposal. A small model backhoe may be used for sediment removal, utilizing straw matting to contain the sediment if not placed directly into a transport vehicle for offsite usage or disposal.

The basins will be constructed in accordance with all public works construction standards, guidelines and specifications, and incorporating recommendations of the project geotechnical report (Converse Consultants, December 2011).

Appendix A
Photographs



Photograph 1: Looking east onto Rathbun Creek



Photograph 2: Looking northwest onto Rathbun Creek



Photograph 3: Looking west at vicinity of proposed southern bridge.



Photograph 4: Vicinity of northern bridge.



Photograph 5: Emergent marsh wetland at south side of creek.

Appendix B
Wetland Data Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12; 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 1
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>		
Remarks:				

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100 %</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
_____ = Total Cover					Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____	
1. _____	_____	_____	_____	FACW species <u>70</u> x 2 = <u>140</u>	
2. _____	_____	_____	_____	FAC species _____ x 3 = _____	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: <u>70</u> (A) <u>140</u> (B)	
_____ = Total Cover				Prevalence Index = B/A = <u>2</u>	
Herb Stratum (Plot size: <u>20 by 20 feet</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Hordeum brachyantherum</u>	<u>70</u>	<u>X</u>	<u>FACW</u>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Leymus Triticoides</u>	<u>10</u>	_____	<u>FAC</u>		<input type="checkbox"/> 2 - Dominance Test is >50%
3. _____	_____	_____	_____		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____	_____	_____	_____		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
<u>80</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum <u>40</u>					
Remarks:					

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12; 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 2
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100 %</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
_____ = Total Cover					Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____	
1. _____	_____	_____	_____	FACW species <u>80</u> x 2 = <u>160</u>	
2. _____	_____	_____	_____	FAC species _____ x 3 = _____	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: <u>80</u> (A) <u>160</u> (B)	
_____ = Total Cover				Prevalence Index = B/A = <u>2</u>	
Herb Stratum (Plot size: <u>20 by 20 feet</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Carex Praegracilis</u>	<u>40</u>	<u>X</u>	<u>FACW</u>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Hordeum brachyantherum</u>	<u>40</u>	_____	<u>FACW</u>		<input type="checkbox"/> 2 - Dominance Test is >50%
3. _____	_____	_____	_____		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____	_____	_____	_____		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
<u>80</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum <u>50</u>					
Remarks:					

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12; 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 3
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?		
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>		Yes _____	No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100 %</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
= Total Cover					Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____	
1. _____	_____	_____	_____	FACW species _____ x 2 = _____	
2. _____	_____	_____	_____	FAC species <u>60</u> x 3 = <u>180</u>	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: <u>60</u> (A) <u>180</u> (B)	
= Total Cover				Prevalence Index = B/A = <u>3</u>	
Herb Stratum (Plot size: <u>20 by 20 feet</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Leymus triticoides</u>	<u>60</u>	<u>X</u>	<u>FAC</u>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Carex praegracilis</u>	<u>10</u>	_____	<u>FACW</u>		<input type="checkbox"/> 2 - Dominance Test is >50%
3. _____	_____	_____	_____		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____	_____	_____	_____		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
= Total Cover					
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum <u>30</u>					
Remarks:					

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1"	10 YR 2/2	100%					Loam	Saturation up to 1"
2-14 "	10 YR 2/2	100%					Loam	No saturation or standing water

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
--	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): 0-1 "	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 4
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100 %</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>70</u> x 3 = <u>210</u> FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>70</u> (A) <u>210</u> (B) Prevalence Index = B/A = <u>3</u>
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>20 by 20 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Leymus triticoides</u>	<u>70</u>	<u>X</u>	<u>FAC</u>	
2. <u>Carex praegracilis</u>	<u>10</u>	_____	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>80</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>40</u>				
Prevalence Index = B/A = <u>3</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks:				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12; 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 5
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>80</u> x 2 = <u>160</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>80</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>2</u>
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>20 by 20 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex praeegracilis</u>	<u>40</u>	<u>X</u>	<u>FACW</u>	
2. <u>Hordeum brachyantherum</u>	<u>40</u>	_____	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>80</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>40</u>				
Remarks:				

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1"	10 YR 2/1	100%					Loam	Saturation up to 1"
2-14 "	10 YR 2/1	100%					Loam	No saturation or standing water

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): 0-1 "	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12; 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 6
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100 %</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>80</u> x 2 = <u>160</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>80</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>2</u>
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>20 by 20 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex praeegracilis</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Hordeum brachyantherum</u>	<u>40</u>	_____	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>80</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>40</u>				
Remarks:				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 7
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
_____ = Total Cover					Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____	
1. _____	_____	_____	_____	FACW species _____ x 2 = _____	
2. _____	_____	_____	_____	FAC species <u>60</u> x 3 = <u>180</u>	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: <u>60</u> (A) <u>180</u> (B)	
_____ = Total Cover				Prevalence Index = B/A = <u>3</u>	
Herb Stratum (Plot size: <u>20 by 20 feet</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Leymus triticoides</u>	<u>30</u>	<u>X</u>	<u>FAC</u>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Poa pratensis L.</u>	<u>30</u>	_____	<u>FAC</u>		<input type="checkbox"/> 2 - Dominance Test is >50%
3. _____	_____	_____	_____		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____	_____	_____	_____		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
<u>60</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum <u>40</u>					
Remarks:					

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12; 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 8
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50 %</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>30</u> x 3 = <u>120</u> FACU species _____ x 4 = _____ UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>60</u> (A) <u>270</u> (B) Prevalence Index = B/A = <u>4.5</u>
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>20 by 20 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Artemisia tridentata</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
2. <u>Leymus triticoides</u>	<u>30</u>	_____	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>60</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>30</u>				
Remarks:				

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1"	10 YR 2/1	100%					Loam	Saturation up to 1"
2-14 "	10 YR 2/1	100%					Loam	No saturation or standing water

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (**except MLRA 1**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (**LRR A**)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (**LRR A**)
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____
 Water Table Present? Yes _____ No Depth (inches): _____
 Saturation Present? Yes No _____ Depth (inches): 0-1 "

Wetland Hydrology Present? Yes _____ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 9
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50 %</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
_____ = Total Cover					Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____	
1. _____	_____	_____	_____	FACW species _____ x 2 = _____	
2. _____	_____	_____	_____	FAC species <u>30</u> x 3 = <u>90</u>	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species <u>30</u> x 5 = <u>150</u>	
5. _____	_____	_____	_____	Column Totals: <u>60</u> (A) <u>240</u> (B)	
_____ = Total Cover				Prevalence Index = B/A = <u>4</u>	
Herb Stratum (Plot size: <u>20 by 20 feet</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Carex praegracilis</u>	<u>30</u>	<u>X</u>	<u>FAC</u>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Artemisia tridentata</u>	<u>30</u>	_____	<u>UPL</u>		<input type="checkbox"/> 2 - Dominance Test is >50%
3. _____	_____	_____	_____		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____	_____	_____	_____		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
<u>60</u> = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum <u>30</u>					
Remarks:					

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12; 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 10
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>		
Remarks:				

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100 %</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>80</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.5</u>
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>20 by 20 feet</u>) 1. <u>Leymus triticoides</u> 40 X FAC 2. <u>Hordeum brachyantherum</u> 40 _____ FACW 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>30</u>				
Remarks:				

Hydrophytic Vegetation Present? Yes No _____

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12; 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 11
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100 %</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
= Total Cover					Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____	
1. _____	_____	_____	_____	FACW species _____ x 2 = _____	
2. _____	_____	_____	_____	FAC species <u>60</u> x 3 = <u>180</u>	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: <u>60</u> (A) <u>180</u> (B)	
= Total Cover				Prevalence Index = B/A = <u>3</u>	
Herb Stratum (Plot size: <u>20 by 20 feet</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Leymus triticoides</u>	<u>60</u>	<u>X</u>	<u>FAC</u>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Carex praegracilis</u>	<u>30</u>	_____	<u>FACW</u>		<input type="checkbox"/> 2 - Dominance Test is >50%
3. _____	_____	_____	_____		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____	_____	_____	_____		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
90 = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum <u>10</u>					
Remarks:					

SOIL

Sampling Point: 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1"	10 YR 2/2	100%					Loam	Saturation up to 1"
1-2"	10 YR 2/2	100%					Loam	No saturation or standing water

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12; 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 12
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100 %</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>100</u> x 1 = <u>100</u> FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>100</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>1.0</u>
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>20 by 20 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Juncus Balticus</u>	<u>80</u>	<u>X</u>	<u>OBL</u>	
2. <u>Carex nebrascensis</u>	<u>20</u>	_____	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks:				

SOIL

Sampling Point: 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10 YR 2/1	100					Clayous	Saturation up to 2"

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (**except MLRA 1**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (**LRR A**)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (**LRR A**)
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes No _____ Depth (inches): 2"
 Water Table Present? Yes No _____ Depth (inches): _____
 Saturation Present? Yes No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12; 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 13
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100 %</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
= Total Cover					Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: _____)				OBL species <u>90</u> x 1 = <u>90</u>	
1. _____	_____	_____	_____	FACW species _____ x 2 = _____	
2. _____	_____	_____	_____	FAC species _____ x 3 = _____	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: <u>90</u> (A) <u>90</u> (B)	
= Total Cover				Prevalence Index = B/A = <u>1.0</u>	
Herb Stratum (Plot size: <u>20 by 20 feet</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Juncus Balticus</u>	<u>90</u>	<u>X</u>	<u>OBL</u>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____	_____	_____	_____		<input type="checkbox"/> 2 - Dominance Test is >50%
3. _____	_____	_____	_____		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____	_____	_____	_____		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
= Total Cover					
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum <u>10</u>					
Remarks:					

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12; 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 14
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100 %</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>80</u> x 1 = <u>80</u> FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>80</u> (A) <u>80</u> (B) Prevalence Index = B/A = <u>1.0</u>
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>20 by 20 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Juncus Balticus</u>	<u>80</u>	<u>X</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>80</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks:				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Moonridge Zoo Project City/County: Big Bear Lake Sampling Date: 2/23/12; 7/2/12
 Applicant/Owner: Big Bear Valley Parks and Recreation District State: CA Sampling Point: 15
 Investigator(s): Erinn Johnson and Tony Bomkamp Section, Township, Range: Section 22, Township 02 North, Range East 01
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Morical, very deep-Hecker families complex (BoD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100 %</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____
1. _____	_____	_____	_____	OBL species <u>100</u> x 1 = <u>100</u>
2. _____	_____	_____	_____	FACW species _____ x 2 = _____
3. _____	_____	_____	_____	FAC species _____ x 3 = _____
4. _____	_____	_____	_____	FACU species _____ x 4 = _____
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
= Total Cover				Column Totals: <u>100</u> (A) <u>100</u> (B)
Herb Stratum (Plot size: <u>20 by 20 feet</u>)				Prevalence Index = B/A = <u>1.0</u>
1. <u>Juncus Balticus</u>	<u>60</u>	<u>X</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Carex nebrascensis</u>	<u>40</u>		<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks:				

APPENDIX F.3
Moonridge Animal Park Emergency Procedures

Moonridge Animal Park Policies and Procedures

General Emergency and Evacuation Procedure

Date: 9-17-2011

Specific Emergency Protocols for Earthquakes

9-17-2011

Specific Emergency Protocols for Fire

9-17-2011

Specific Emergency Protocols for Flood

9-17-2011

Moonridge Animal Park Emergency Procedures

Escaped Animal Emergency Plan

Revised 8-10-2011

Moonridge Animal Park Policies and Procedures

General Emergency and Evacuation Procedure

Date: 9-17-2011

Introduction

Emergencies can occur with or without warning and multiple emergency scenarios can occur at the same time. In general various emergency scenarios have common responses. This protocol will serve as a general guideline. In the event of any emergency the zoo curator, lead animal keeper and lead maintenance supervisor should be contacted immediately.

Possible Emergencies Without Warning

1. Earthquake
2. Toxic Gas Release

Possible Emergencies With Warning

1. Flood
2. Windstorm
3. Bomb/Riot
4. Fire

Staff

Staff are to carry radios at all times to ensure communication in an emergency. Personnel will be divided into 2 emergency response teams.

Response Team #1- Unless otherwise notified this team will respond to the zoo immediately. In the event of an emergency communications may be down and staff could be unreachable. Curator; Debbie Richardson, Lead Keeper; Christy McGiveron, Lead Maintenance; Tom Miller, Andrew Gutierrez, Leslie Castillo, Brent Russell, Summer McElroy, Ramie Bedolla.

Response Team #2- "on alert" but will not respond to the zoo unless notified. Too many people responding may hinder the emergency operations. They may also be needed later if the emergency is prolonged. Stacy Hunt, Kasey Crabb, April Slater, Dana Casey, Jane Kelly-Munoz, Diane Roberts, Marge Schwab.

General Procedures

1. Close zoo- if the zoo is currently open when a disaster occurs, the zoo will be closed and patrons will be removed.
2. Staff response:
 - A. Response team #1 will immediately report to the zoo.
 - B. The situation will be assessed and the other response team or personnel will be contacted as needed.
3. Disconnect or turn off utilities if appropriate to prevent further disasters.
4. Obtain equipment needed to safely secure facility and animals.
5. Make sure all animals are secure and in safe areas.
6. Remove animal records.

7. Continue to reassess the emergency and secure resources as needed. Provide regular updates to staff, supervisors, and authorities.
8. When safe restore all utilities, animals that had been removed from their enclosures, and animal records.
9. Review and report status.
10. Reopen zoo as appropriate.

Annual Routine

1. Maps and locations of all utility shut-offs will be supplied to the staff.
2. Inspect and inventory all equipment for emergency purposes.
3. Refill all fire extinguishers.
4. Replace batteries in emergency lights, etc.

Staff Responsibilities

Zoo Curator or Ranking Supervisor

1. Assess the emergency and direct the staff response.
2. Coordinate with other agencies as needed (Park District Office, Maintenance Department, Sheriff, Utility Companies, City Teams, Bear Mountain Ski Resort Crews, County EOC, and Media).
3. Assist with emergency operations including: animal capture, crating and removal.
4. Direct operations and coordinate details including the safety of the animals, staff and public.
5. Obtain all emergency supplies and equipment necessary.
6. Determine if evacuation of animals is necessary.

Lead Keeper

1. Maintain emergency response equipment and ensure proper equipment is available and in good working order at all times.
2. Make sure there are enough emergency food and water supplies available to maintain animal well being for up to a week.
3. Direct the staff in emergency or evacuation procedures.
4. Assist with animal and staff safety, securing the facility and the evacuation of animals if necessary.

Animal Keepers

Follow instructions of ranking supervisor.

Response team #1

1. Obtain emergency equipment.
2. Observe and care for animals.
3. Assist in animal catch up and crating if evacuation becomes necessary.

Response team #2

1. Assemble transport crates if evacuation crates if evacuation becomes necessary and place at appropriate enclosures.
2. Assist with animal catch up and crating.
3. Transport crates with animals to vehicles in anticipation of evacuation.
4. Pack up all supplies necessary for care for animals in the event they need to be moved offsite.

FOMZ Staff/ Emergency Coordinator

1. Maintain a current list of docents and other volunteers willing to help.
2. Obtain phone numbers and initiate contact when requested by the ranking supervisor.
3. Assist zoo staff with animals as directed.
4. Assist with emergency equipment as directed.
5. Secure records as directed.

Emergency equipment

- Food and water supplies for animals for at least one week. If it becomes necessary animal pools lake water and the Bear Mountain pond may be utilized.
- Airline Kennel
- Chainsaw
- Cordless spotlight
- Cold packs
- Emergency tools (pry bars, wire, hammer, drill, etc.)
- Extension cords
- First aid Kits
- Flashlights
- Fire Extinguisher
- Gasoline- 2 5 gallon cans
- Radio- Battery powered
- Ropes
- Spare Sandbags
- Spare Batteries
- Submersible Pump
- Tarps
- Canned Foods
- 4x4 truck
- Cargo van
- Mini van
- Access to kubota and back hoe
- Generators
- Additional Barricades/Fences
- Portable Caging Panels
- Welder
- Snowblowers
- Blow torches- small and large propane
- Medical supplies and equipment

Medical Area

- Blankets and bedding
- Capture equipment
- Insta heat warmers
- Incubators
- Leather gloves

- Nets
- Oil heater
- Oxygen
- Spare caging
- Anesthesia drugs
- Antibiotic drugs
- Topical ointments
- Medical supplies and equipment

Staff and Volunteer

- Flashlights
- Food-animal and people food
- Sleeping bags/pads
- Matches/lights
- Rainwear/boots
- Change of clothes
- Generator

Emergency Numbers

- | | | |
|------------------------|----------|----------|
| • District office | 866-9700 | |
| • District Maintenance | 866-9707 | |
| • Sheriff | 866-0100 | |
| • Fire Dept. | 585 2362 | |
| • Water Dept. | 585-2565 | |
| • Public Works | 585-7521 | 866-5831 |
| • Gymnasium | 866-9708 | |

Animal offsite Evacuation Sites

1. Gymnasium at District office in Big Bear.
2. Swim Beach at District Office in Big Bear
3. Midway Park in Lucerne Valley

Shut-offs, etc. for Zoo Emergency

Electrical Shut-offs

- 1) Main- Inside kitchen
- 2) outside education building behind kiosk
- 3) for Grizzlies only - on Grizzly Den
- 4) behind restroom - (near storage shed)
- 5) behind Black Bears on concrete
- 6) outside Medical Area - sub panel controls: Wolves, Beavers, Fishers, Eagles, Nocturnal, Kit Foxes

Lighting

- 1) on back deck of Education Center - plug in lights- switched by cashier
- 2) Den lights for Grizzly Den on outside of den
- 3) Street Lights - a. controls in reptile room - Mule Deer
 - Eagles
 - Coyotes/Mule Deer Walkwayb. #10 on Main Box - near entrance to amphitheater
- 4) Manual light between Eagles and Kit Fox
- 5) Manual light outside Wolf Pups

Water Shut-Offs

- 1) Main - outside front gate
- 2) In front of Bobcats

Hose Bibs

- 1) West side of Coatis
- 2) Grizzly Bears - 2 bibs, one close to Red Fox
- 3) Restrooms
- 4) Corner of Black Bears (closest to restrooms)
- 5) Wolf Pups
- 6) Mews
- 7) Rehab
- 8) Fishers
- 9) Lynx
- 10) Grey Fox

Propane Tanks

- 1) Next to Chinchillas (Reptile Room) - shut off on top
- 2) Under deck of Education center next to Crow - shut off on top

Natural Gas Shut-Off

- 1) Main - outside on north side of kitchen
- 2) Behind door of Kitchen

Phone

Main Connectors outside Education Center, behind the kiosk

Other Important Info

Fire Extinguishers

- 1) Education Center next to the poster box
- 2) Kitchen - outside and inside door

- 3) Reptile Room
- 4) Medical Area

On Main Panel - Circuit Breaker #10 controls street light opposite Medical Trailer

Motion Detector Lights

- 1) outside back gate
- 2) Grizzly walkway to den
- 3) Front Gate

Doors to Grizzly Den have a manual control winch

Keys to vehicles are next to Debbie's desk and in the Kitchen next to the door

Airline Kennels (animal crates) are in the upper hay shed behind the kitchen

Be aware of the hot water heater in the Med Room and wall heaters in Kitchen, Med Room, Education Center, and Reptile Room

If the electricity goes down, so does the alarm

Specific Emergency Protocols for Earthquakes

9-17-2011

Follow General Emergency Protocols

In Addition:

1. If a major earthquake occurs during public hours the cashier will close the zoo entrance.
2. Staff will initially concentrate on the safety of visitors and other staff/volunteers depending on the severity of the quake. Any medical and evacuation needs should be addressed immediately.
3. Utilities should be turned off or secured depending on the severity of the emergency.
4. Radio contact should be limited in order to lessen interference with other emergency agencies.
5. Following emergency care of humans animal care staff will concentrate on safety of the animal collection. They will assess and care for any injuries to the animals.
6. Assess obvious damage to the enclosures and report damage to the ranking supervisor.
7. Buildings considered unsafe should be tagged for no entry.
8. In the event of road damage the zoo may be isolated and must be self sustaining for at least a week. Emergency, food and water supplies should be available for the allotted time.
9. Response team 1 should report automatically to the zoo unless otherwise notified.
10. Response team 2 should stand by and await instructions.
11. The curator or ranking supervisor will maintain contact with emergency centers in the valley.
12. Preparations should be made for potential aftershocks and animal evacuation if necessary.

Specific Emergency Protocols for Fire

9-17-2011

Follow General Emergency Procedures

1. Zoo maintenance and keeper staff are responsible for ensuring that fire hazards are minimized through frequent physical review and removal of brush and hazards.
2. Extension cords should be eliminated where possible in favor of metal conduit.
3. Major buildings are to be equipped with fire extinguishers. All extinguishers should be checked and recharged once a year.
4. All hose bibs should be operational and have hoses attached to them.
5. Zoo staff should carry radios at all times. Radio chatter should be kept at a minimum during an emergency.
6. Person responding to an alarm for a fire should call the ranking supervisor and response team 1 if needed. Response team 2 will be on call for animal and supply removal.
7. Larger animals such as the Grizzly and Black Bears may be allowed to remain safely in their enclosures or dens rather than being evacuated.
8. For purpose of rapid removal previous housing requirements may be abandoned and multiple animals may be crated together based on compatibility.
9. There are enough emergency crates housed in the storage area above the hay shed for all of the animals from the mountain lions down in size to be crated individually.
10. Assigned string keepers and a backup will load and remove animals assigned to them.
11. If necessary animals will be relocated to one of the offsite evacuation sites. These include the gymnasium and swim beach in Big Bear and Midway Park in Lucerne Valley.
12. Volunteers may help remove smaller animals that live in transportable enclosures.
13. Larger animals such as Black Bears, Grizzlies, Bison and Deer should be locked into holding areas and off of main exhibits in case immobilization and removal becomes necessary.
14. Staff will be assigned to operate transport vehicles and move crates into vehicles.
15. If chemical immobilization becomes necessary appropriate staff will be assigned to monitor the animals to ensure safe recovery.
16. If rescue attempts become impossible for certain animals and it appears they could be destroyed in the fire as a last resort a police officer or certified staff will humanely euthanize these animals.
17. Once animals have been relocated keeper staff will ensure that enough food and water have been transported to provide for the animals for at least a week. Further supplies may be picked up by staff from vendors off the hill that normally supply the zoo.
18. Animals will be returned to the zoo once the all clear has been given.

Specific Emergency Protocols for Flood

9-17-2011

Follow General Emergency Protocols

It has been determined that the zoo is situated within a flood zone. During a hundred year flood much of the lower portion of the zoo could be under water. Run-off from the upper Bear Mountain Resort may be rapid and could contain large amounts of rock and other destructive debris.

1. If a flood is imminent the first step is to close the zoo if it is open.
2. Response team 1 reports automatically to the zoo.
3. Disconnect utilities which may become flooded.
4. All animals in the lower portion of the zoo should be moved to higher ground.
5. Once animals have been safely removed keeper staff should ensure that water and food are provided as needed.
6. Food supplies should be taken to higher ground in the education center, public restroom, or reptile room. A minimum of one week's supply of food should be moved and stored properly.
7. Remove ISIS and other animal records from the medical area as well as medical equipment, drugs and medical supplies.
8. Vehicles should be moved if not being used for transport of the animals.
9. If time permits all tools that may be destroyed or damaged by water should also be moved.
10. Specialized equipment such as wet suits, waders, blankets, heating pads, heaters, and blow dryers should be available for both animals and humans.

Moonridge Animal Park Emergency Procedures

Escaped Animal Emergency Plan

Revised 8-10-2011

In the event of an animal escape, the following outlined procedures are to be followed:

1. Zoo personnel or volunteer staff that initially observes the animal out of its enclosure should try to maintain sight of the animal and notify the remaining animal park personnel immediately. Identify which animal is out and it's specific location by radio
2. The ranking supervisor at the facility will take responsibility for the recapture procedure and will follow these guidelines as it applies to the animal in question.
 - A. Contact all personnel by radio immediately and insure that all perimeter gates are secured.
 - B. Make sure all patrons are removed to secure areas and instructed to stay there until notified it is safe, close the park to incoming guests. Secure Areas include: Education Building, restrooms, Animal park kitchen, nocturnal building, reptile room and areas outside perimeter gates.
 - C. Notify Curator and veterinarian.
 - D. Gather any capture and restraint equipment needed for re-capture of the animal.
 - E. Ranking supervisor will coordinate all re-capture efforts and will define the plan for the capture team.
 - F. Enclosure will be inspected for any possible breeches in the perimeter that may have allowed the escape before the animal is returned to the exhibit, or before other animals can escape.
 - G. Once the animal and enclosure are completely secured the All Clear may be given by the ranking supervisor.
3. There will be designated capture teams with specifically assigned duties to cover every day of the parks operation. Ranking supervisor will control the operation and coordinate the team according to each members strength.
 - A. The Cashier will make all necessary phone calls and secure the zoo entrance
 - B. Docents and other volunteers will assure that patrons are moved into secure areas and remain there until the All Clear is given.
 - C. The veterinarian will handle all drugs for immobilization and insure the animals safety and well being.
 - D. Animal Keeper staff will be given specific duties concerning the use of immobilization equipment, capture equipment, visual barricades, observation of the animal , crowd control and communication.
4. Capture equipment includes but is not restricted to: nets (both mammal and bird), 2 dart rifles with various size cartridges, 2 dart pistols, 2 push poles, 1 shot gun with ammunition, 2 come alongs (rabies poles),3 have a hart traps, several sets of gloves, all sizes of animal crates up to

black bear size. Crates include both pet air line kennels and larger wooden and aluminum crates, fire extinguishers, hoses, flashlights, radios, oxygen, ATV, truck, portable caging panels various immobilization drugs, as well as drugs such as antibiotics anti-seizure drugs, pain medications and topical antibiotic and ointments. We have a fully equipped medical room as well as a surgical room on site. We also have 2 first aid kits for humans one located in our education/entrance and one located in Kitchen/Medical.

5. Drugs available for knock down include: ketamine, telazol, xylazine, medetomidine, valium and ace. Drugs for euthanasia –Euthasol. Veterinarians available for drug use on animals include Dr. Thomas, Dr. Hough and Dr. Perkins. Veterinary Technicians employed by the facility include Leslie Castillo, Stacy Hunt, April Slater and Jane Kelly-Munoz. Qualified rifle and dart gun employees include Andrew Gutierrez and Thomas Miller as well as the veterinarians.
6. In case of escape the teams consist of : People will assemble into their teams during an emergency situation
 - A. Ranking Supervisor:Curator Debbie Richardson,Lead Animal Keeper Christy McGiveron, Lead Maintenance Thomas Miller, Park and Recs. District manager .Reese Troublefield.
 - B. Veterinary Staff(responsible for assembling all necessary drugs and paraphernalia): Dr. Thomas, Dr. Perkins, Dr. Hough, Leslie Castillo, Stacy Hunt, April Slater, Jane Kelley-Munoz.
 - C. Immobilization team (responsible for gathering all immobilization equipment): Andrew Gutierrez, Thomas Miller and all Veterinarians
 - D. Public Safety Team(responsible for removing all patrons and securing all perimeter gates and making all requested phone calls) : Ramie Bedolla cashier, Marge Schwab cashier, Diane Roberts Animal Keeper, Jane Kelly Munoz Animal Keeper, Dana Casey Animal Keeper
 - E. Animal Capture Team(responsible for assembling all capture equipment): Ranking Supervisors plus Andrew Gutierrez, Brent Russell, Summer McElroy, Leslie Castillo, Kasey Crabb, Stacy Hunt, April Slater,

All phone numbers are posted at the cashiers desk, curators office, kitchen, Lead keepers desk and district office:

Emergency – 911

Curator Debbie Richardson – 909-585-6099 h, 951-318-1479 cell, 909-584-1299 off.

Veterinarians – 909-866-2021, Dr Thomas Cell 530-848-1550

Lead Animal Keeper Christy McGiveron – 909-584-7902 home 909-809-2470

Chino Fish and Game Lt. Mike Stepanak – 909-597-9823

Wildlife Investigations Lab Fish and Game – 1-916-358- 1462

Wildlife Vet F&G Rancho Cordova - 1-916-358-2378

Kathy Kline – 1-916-928-5845

Jeff Villaquez Fish and Game Biologist – 1-760-937-5966

Rick Fisher Fish and Game Warden – 951-288-7651

Andrew Gutierrez Animal Keeper – 909-585-1989 home 909-935-6044 cell

Brent Russell Animal Keeper – 909-205-3023 cell

Leslie Castillo Veterinary Technician – 970-314-8350

Jane Kelly Munoz Veterinary Tech. – 1-310-994-3197

Dana Casey Animal Keeper – 1-310-995-7991

Kasey Crabb Animal Keeper – 1-805-215-6603

Ramie Bedolla Cashier – 1-831-247-8853

Reese Troublefield Park District Supervisor – 909-866-9700 off. 909-936-4700 cell

Diane Roberts Animal Keeper – 909-584-9011

Summer McElroy – 909-547-0548 cell

Tom Miller Lead maintenance -909-585-4527 home 909-648-0237 cell

Stacy Hunt Veterinary Tech. – 1-818-398-2063

April Slater Veterinary tech. - 909-806-9803

Marge Schwab cashier – 909-585-6994

Zoo Education Center/entrance -909-584-1299

Zoo Kitchen/Medical Area – 909-584-4352

Animal Control Jamie- 909-633-5917 cell