

3.0 COMMENTS AND RESPONSES TO COMMENTS

3.1 INTRODUCTION

This section of the Final EIR includes copies of comments (letters, e-mails, and hearing transcripts) received during the 120-day public comment period on the Draft EIR, along with written responses to those comments. All submittals have been assigned a letter or number code as shown in the list of commenters provided in Section 3.2, below. Individual commenters seeking responses to their comments should use the list provided to identify the alphabetical or numerical code assigned to their comments and then proceed to that place in the document. The California Environmental Quality Act (CEQA) requires that responses be provided to substantive comments on the environmental analysis. The County has tried to do more than meet this minimum requirement and has provided responses to *all* comments, including those that address planning policies rather than environmental issues. Cross-references to the Revised Draft General Plan Update described as the "Preferred Plan" in Section 2.0 are provided where possible.

No new significant environmental impacts or issues, beyond those already covered in the Draft EIR (DEIR) for the Napa County General Plan Update, were raised during the comment period, and the County of Napa (County), acting as lead agency, directed the preparation of responses to the Draft EIR comments presented herein. Responses to comments received during the comment period do not involve any new significant impacts or "significant new information" that would require recirculation of the Draft EIR pursuant to CEQA Guidelines Section 15088.5.

3.2 LIST OF COMMENTERS

The following individuals and representatives of organizations and agencies submitted written comments on the Draft EIR:

Letter	Individual or Signatory	Affiliation	Date	Page #
A	Colleen (Lee) Benner	US Department of the Interior – Minerals Management Service	4/16/07	3.0-65
B	Jonna Hildenbrand	US Bureau of Land Management	4/16/07	3.0-70
C	Scott Morgan	State of California Governor's Office of Planning and Research (OPR)	4/10/07	3.0-73
D	Kevin Boles	California Public Utilities Commission (CPUC) – Rail Crossings Engineering Section	3/26/07	3.0-77
E	Marina R. Brand	California State Lands Commission	2/28/07	3.0-80
F	Steven Herrera	State Water Resources Control Board	4/12/07	3.0-83
G	Christopher Huitt	California Department of Water Resources	3/5/07	3.0-90
H	Bryan Much	California Historical Resources Information System	4/13/07	3.0-95
I	Guy Kay	Napa County Regional Park Open Space District	2/23/07	3.0-99
J	Rich Ramirez	City of American Canyon – City Manager	2/1/07	3.0-101
K	Leon Garcia	City of American Canyon – Mayor	3/13/07	3.0-104
L	Leon Garcia	City of American Canyon – Mayor	3/22/07	3.0-139
M	Robert Weil	City of American Canyon – Public Works Department	4/5/07	3.0-142
N	Del Britton	City of St. Helena – Mayor	4/12/07	3.0-153

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Letter	Individual or Signatory	Affiliation	Date	Page #
O	Mike Parness	City of Napa – City Manager	3/16/07	3.0-178
P	Sahrye Cohen	Bay Conservation and Development Commission	3/26/07	3.0-180
Q	Jack Gingles	LAFCo of Napa County	6/4/07	3.0-182
R	Iris P. Yang	McDonough Holland & Allen on behalf of City of American Canyon	6/5/07	3.0-187
S	Graham S. Wadsworth, PE	City of Napa – Public Works Department	6/11/07	3.0-192
T	Betty Yee	California Regional Water Quality Control Board, Central Valley Region	6/12/07	3.0-195
U	Leigh K. Sharp	Napa County Resource Conservation District	6/12/07	3.0-199
V	Dyan Whyte	California Regional Water Quality Control Board, San Francisco Bay Region	6/15/07	3.0-207
W	Gabrielle Avina	Napa County Fire Department – Fire Marshal’s Office	6/15/07	3.0-214
X	Richard Thomasser	Napa County Flood Control and Water Conservation District	6/18/07	3.0-219
Y	Sandra Cleisz	City of American Canyon – Planning/Building Department	6/18/07	3.0-223
Z	Charles Armor	California Department of Fish and Game, Bay Delta Region	6/18/07	3.0-248
AA	Todd Herrick	Napa Sanitation District	6/18/07	3.0-253
BB	Dana Smith	City of Napa – City Manager’s Office/Development Services	6/11/07	3.0-260
CC	Timothy C. Sable	California Department of Transportation	6/18/07	3.0-294
DD	Charlene Gallina	City of Calistoga – Planning & Building Dept.	6/18/07	3.0-299
EE	Barton D. Buechner	California Department of Veterans Affairs	6/18/07	3.0-329
FF	Sandra Cleisz, Interim Planning Director, on behalf of Michele Castagnola, Planning Commission Chair	City of American Canyon – Planning/Building Department	5/25/07	3.0-331
GG	Sahrye Cohen	Bay Conservation and Development Commission	6/25/07	3.0-335
HH	John Woodbury	Napa County Regional Park and Open Space District	6/14/07	3.0-339
II	Terry Roberts	State of California Governor’s Office of Planning and Research - State Clearinghouse	6/19/07	3.0-352
1	Elisabeth Frater	Sierra Club, Napa Group	3/20/07	3.0-352
2		Howell Mountain Mutual Water Company	[undated]	3.0-356
3	Lowell Downey	Napa County Green Party	3/19/07	3.0-369
4	Joseph G. Peatman	The Peter A. and Vernice H. Gasser Foundation	5/29/07	3.0-387
5	Reverdy Johnson on behalf of Jeri Hansen-Gill	Napa Valley Vintners	3/29/07	3.0-390
6	Brad Harris	Pacific Gas & Electric Company	4/17/07	3.0-394
7	Richard Osborn	Pacific Union College	4/9/07	3.0-397

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8	Nancy E. Levenberg	St. Helena Chamber of Commerce	5/16/07	3.0-401
9	Renee Mason Carter Darren Morris	BOCA Company, LLC WHAL Properties, LP	2/26/07	3.0-405
10	Kellie Anderson		3/2/07	3.0-407
11	Kellie Anderson		3/28/07	3.0-409
12	Cori Badertscher		3/19/07	3.0-421
13	Bob Barbarick		3/27/07	3.0-424
14	Lois Ann Battuello		1/10/07	3.0-426
15	Lois Ann Battuello		2/18/07	3.0-432
16	Lois Ann Battuello		3/4/07	3.0-437
17	Lois Ann Battuello		3/28/07	3.0-439
18	Lois Ann Battuello		4/4/07	3.0-447
19	Lois Ann Battuello		5/15/07	3.0-450
20	Caetlynn Booth		4/27/07	3.0-461
21	Wendy Markel	Berkeley Architectural Heritage Association	5/19/07	3.0-463
22	Wendy Wallin	Berryessa Trails and Conservation	3/20/07	3.0-465
23	Jacqueline and Barry Captainian		3/18/07	3.0-469
24	Arminée Chahbazian		2/2/07	3.0-474
25	Duane Cronk		2/16/07	3.0-476
26	Dee Cuney		3/29/07	3.0-478
27	Dee Cuney		4/4/07	3.0-480
28	Dee Cuney		4/4/07	3.0-482
29	Hilary J. DePuy		4/5/07	3.0-484
30	Kelly Eoff	Rocking MK Ranch	5/22/07	3.0-486
31	Don Gordon	Gordon Family Ranch	5/1/07	3.0-488
32	Paul M. Gridley		4/4/07	3.0-515
33	Randy Gularte	Napa Youth Sports Council	3/19/07	3.0-517
34	Ed Schulz and Shirleen Hall		4/4/07	3.0-519
35	Dennis Harter		3/22/07	3.0-521
36	John E. Hoffman		2/28/07	3.0-523
37	Larry Hoffman		4/17/07	3.0-525
38	Eliseo P. Ira		4/12/07	3.0-527
39	Eve Kahn		3/4/07	3.0-529
40	Robert A. Karn & Associates on behalf of Shawn Hacker		5/21/07	3.0-533
41	Daniel R. Kitley		5/7/07	3.0-537

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Letter	Individual or Signatory	Affiliation	Date	Page #
42	John Hoffnagle	The Land Trust of Napa County	5/22/07	3.0-539
43	Maria Lopez		4/23/07	3.0-542
44	Evelyn A. Skinnear		4/25/07	3.0-544
45	Erica Martensen		4/4/07	3.0-546
46	Erica Martensen		4/5/07	3.0-551
47	Rob McDonald		4/6/07	3.0-555
48	Herb McGrew		4/27/07	3.0-557
49	Nelia S. Medeiros		3/19/07	3.0-560
50	Thomas Miele		3/20/07	3.0-562
51	Lola Cornish & Darlene Howell	Napa County Child Care Planning Council	5/21/07	3.0-566
52	Linda Neal		3/24/07	3.0-568
53	Geoff Nelson		2/28/07	3.0-571
54	Lou Penning		4/2/07	3.0-573
55	Michael and Marieann Perri		4/4/07	3.0-576
56	Craig Philpott		2/25/07	3.0-578
57	Craig Philpott		4/23/07	3.0-580
58	Elizabeth Pressler	Elizabeth Spencer Wines	3/28/07	3.0-583
59	Marjorie Preston		4/3/07	3.0-586
60	Harry T. Price		3/15/07	3.0-588
61	Genji Schmeder		5/30/07	3.0-591
62	Jeanette Scherencel		3/11/07	3.0-599
63	Marie Schutz		4/4/07	3.0-601
64	Ginny Sims		4/5/07	3.0-603
65	Charles Smith		4/4/07	3.0-606
66	Elliot Stern		3/22/07	3.0-608
67	John Stumbaugh		4/5/07	3.0-611
68	Carol Troy		3/18/07	3.0-638
69	Doreen Williams		1/3/07	3.0-640
70	Doreen Williams		3/8/07	3.0-642
71	Susan R-H		3/4/07	3.0-645
72	Concerned Citizens of American Canyon		4/21/07	3.0-647
73	Shannon Damonte		5/23/07	3.0-651
74	Fran Lemos		4/21/07	3.0-653
75	Rosemarie Wilson		4/19/07	3.0-655
76	Richard DeVita		6/6/07	3.0-657

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77	Jean M. Varner		4/25/07	3.0-659
78	[unknown/unreadable]		4/25/07	3.0-661
79	Duane L. Cronk		5/22/07	3.0-663
80	John and Marsa Tully		6/4/07	3.0-669
81	John and Marsa Tully		6/4/07	3.0-671
82	John and Marsa Tully		6/4/07	3.0-673
83	John and Marsa Tully		6/4/07	3.0-676
84	John and Marsa Tully		6/4/07	3.0-680
85	Harold Moskowitz		6/5/07	3.0-683
86	George Bachich		6/7/07	3.0-690
87	Citizens of American Canyon		4/21/07	3.0-693
88	Barbara Spelletich	Angwin Community Council	6/12/07	3.0-697
89	Jake Ruygt	California Native Plant Society	3/19/07	3.0-699
90	Bernhard Krevet	Friends of the Napa River	3/21/07	3.0-701
91	Jennifer Baerwald on behalf of	Pope Valley residents	6/7/07	3.0-706
92	Mary Ellen Boyet		6/14/07	3.0-709
93	Harold Kelly		3/21/07	3.0-711
94	Ginny Simms		3/21/07	3.0-713
95	Eve Kahn	Get a Grip on Growth	6/11/07	3.0-717
96	Barry Christian		6/14/07	3.0-727
97	JoAline Olson	St. Helena Hospital	6/7/07	3.0-734
98	Peter McCrea	Stony Hill Vineyard	6/14/07	3.0-757
99	Al Wagner	Napa County Farm Bureau	6/18/07	3.0-770
100	Adrienne Graves, PhD	Santen, Inc.	6/18/07	3.0-792
101	Allen Spence on behalf of	Save Rural Angwin	6/15/07	3.0-794
102	Alvin Lee Block, MD		6/16/07	3.0-809
103	Paula J. Peterson		6/4/07	3.0-813
104	Bruce Wilson	Napa County Workforce Investment Board	[undated]	3.0-828
105	Bernhard Krevet	Friends of the Napa River	6/18/07	3.0-931
106	Carolyn C. Patterson		6/18/07	3.0-844
107	David Ehrenberger, MD		6/18/07	3.0-857
108	William Moore		6/18/07	3.0-859
109	Tom Gamble		6/4/07	3.0-861
110	Tom Andrews		6/16/07	3.0-869
111	George Bachich		6/1/07	3.0-871

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112	Gopal Shanker	Recolte Energy	6/18/07	3.0-875
113	Harold Kelly		6/17/07	3.0-879
114	Jake Ruygt	California Native Plant Society	6/18/07	3.0-884
115	Joseph Fischer		[undated]	3.0-886
116	Judy du Monde		[undated]	3.0-890
117	Keith Rogal on behalf of	Napa Development Partners	6/18/07	3.0-893
118	LeeAnne Edwards	Jackson Family Services	6/15/07	3.0-898
119	Lucy White		6/18/07	3.0-901
120	Mark Joseph & Ray Marcus	The Impact 94503 Group	6/15/07	3.0-907
121	Elisabeth Frater	Sierra Club, Napa Group	6/18/07	3.0-911
122	Moira Johnston Block		6/17/07	3.0-968
123	N. Gary Merkel		6/17/07	3.0-975
124	Norman J. Eggen		6/18/07	3.0-977
125	Penelope Kuykendall		6/18/07	3.0-980
126	Peter Dreier	Dreier Housing & Planning Consultants	6/12/07	3.0-982
127	Renee Lewis-Hodge		6/13/07	3.0-1009
128	Richard Hulbert		6/16/07	3.0-1011
129	Richard Ehrenberger		6/14/07	3.0-1013
130	Stephen Corley	Napa Valley Vintners	6/14/07	3.0-1015
131	Terry Mulgannon		6/18/07	3.0-1024
132	Bob Fiddaman		6/15/07	3.0-1026
133	Joan Foresman on behalf of	Salvador Creek property owners	6/15/07	3.0-1063
134	Morgan Morgan		6/29/07	3.0-1065
135	Andrea Wolf		6/18/07	3.0-1074
136	Marshall and Billie Jaeger		6/11/07	3.0-1076
137	Glyn Rixon		6/18/07	3.0-1078
138	Brian Nowicki	Center for Biological Diversity	6/29/07	3.0-1080
139	Linda and Roger Wolff		6/18/07	3.0-1092
140	Laurie Puzo		6/18/07	3.0-1094
141	Peri Payne		6/13/07	3.0-1096
142	Mary Ellen Boyet		6/13/07	3.0-1098
143	Phillip Lamoreaux		6/18/07	3.0-1100
144	Terri Restelli-Deits	Napa County Commission on Aging	6/18/07	3.0-1103
145	Tobe Wolf		6/18/07	3.0-1112
146	Richard P. Barthélemy	St. Barthélemy Cellars	6/18/07	3.0-1114

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147	Tina McCauslin, Asset Manager, David L. Bonuccelli & Associates, Inc., on behalf of	Pacific Coast Building Products, Inc.	6/18/07	3.0-1126
148	Chris Malan & John Stephens	Earth Defense for the Environment Now (EDEN)	6/18/07	3.0-1140
149	Donna Morgan on behalf of	Angwin residents	6/15/07	3.0-1224
150	Ginny Simms		6/17/07	3.0-1280
151	Paul Asmuth	Meadowood	6/18/07	3.0-1302
152	Paula J. Peterson		6/15/07	3.0-1373
153	Elisabeth Frater	Sierra Club, Napa Group	6/14/07	3.0-1521
154	Ron Walker		6/14/07	3.0-1525
155	Sandra Ericson		6/14/07	3.0-1530
156	Beth Painter	Napa Valley Economic Development Corp.	6/18/07	3.0-1560
157	Keith Teague, attorney; Dickensen, Peatman & Fogarty, on behalf of	Chardonnay Golf Course	6/18/07	3.0-1563
158	[unreadable]	Dickensen, Peatman & Fogarty – Land Use Department	6/18/07	3.0-1568
159	Margaret Smetana		6/18/07	3.0-1575
160	Charles Shinnamon	Aetna Springs	6/18/07	3.0-1577
161	Wendy Wallin	Berryessa Trails and Conservation	6/18/07	3.0-1581
162	Evelyn Allen		6/17/07	3.0-1590
163	E.S. Cain		6/18/07	3.0-1593
164	Marc Pandone & Wendy Wallin		6/18/07	3.0-1596
165	Marc Pandone & Wendy Wallin		6/18/07	3.0-1601
166	Frank Trozzo & Michael Strong	North Bay Association of Realtors, Napa Chapter	6/17/07	3.0-1609
167	Thomas Selfridge	The Hess Collection	6/11/07	3.0-1616
168	Louis M. Penning	Napa County Bicycle Coalition	6/12/07	3.0-1619
169	John Pitt & Jake Ruygt	California Native Plant Society, Napa Valley Chapter	6/12/07	3.0-1623
170	Brenda W. Perry	Napa County Landmarks	6/15/07	3.0-1656
171	Frank Deras Jr.		6/13/07	3.0-1661
172	Betty Foote		6/18/07	3.0-1663
173	Kellie Anderson		[undated]	3.0-1665
174	Kellie Anderson		[undated]	3.0-1678
175	Jack Cakebread	Winegrowers of Napa County	6/18/07	3.0-1699
176	Joanna Winter		6/18/07	3.0-1723

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Letter	Individual or Signatory	Affiliation	Date	Page #
177	Jack Berry	Eagle Vines Vineyard and Golf Club	6/18/07	3.0-1725
178	Ima Holcomb		7/9/07	3.0-1729
179		Deer Park Traffic Safety Committee	7/4/07	3.0-1731
180	Al Wagner	Napa County Farm Bureau	7/23/07	3.0-1734
181	Amy Smith		7/26/07	3.0-1736
182	Terry Tracy		5/30/07	3.0-1743
183	William McIntyre		4/16/07	3.0-1746
184	Desiree and Tom Altemus		7/31/07	3.0-1748
185	Mahatma Jeeves		7/31/07	3.0-1750
186	Tony Bogar		8/1/07	3.0-1752
187	Ron Citron, MD		8/6/07	3.0-1758
188	Chris Howell		8/6/07	3.0-1760
Public Hearing #1 – March 21, 2007				
	Henry Gundling	Gasser Foundation		3.0-1772
	Cori Badertscher			3.0-1774
	Peter Bartelme	Pacific Union College		3.0-1779
	Elisabeth Frater	Sierra Club, Napa Group		3.0-1781
	Lowell Downey	Napa County Green Party		3.0-1783
	Bernard Krevet	Friends of the Napa River		3.0-1785
	Eve Kahn on behalf of	Get a Grip on Growth		3.0-1787
	Cheryl Harris on behalf of	California Native Plant Society (for Jake Ruygt)		3.0-1793
	Harold Kelly			3.0-1794
	John Stephens			3.0-1797
	Moira Johnston Block and Alvin Lee Block			3.0-1798
	Volker Eisele			3.0-1803
	Sandy Elles on behalf of	Napa County Farm Bureau		3.0-1807
	John Tully			3.0-1812
	Marsa Tully			3.0-1814
	Kellie Anderson			3.0-1815
	Gopal Shanker			3.0-1818
	Nicole Byrd	Greenbelt Alliance		3.0-1821
	Ginny Simms			3.0-1825
Public Hearing #2 – March 28, 2007				
	Delmer Fjarli	Howell Mountain Mutual Water Company		3.0-1879
	Duane Deiss	Howell Mountain Mutual Water Company		3.0-1882

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	Henry Gundling	Gasser Foundation		3.0-1883
	Wendy Wallin			3.0-1886
	Tessa Levine			3.0-1889
	Molly Levine			3.0-1890
	Kellie Anderson			3.0-1892
	Ginny Simms			3.0-1896
	Elizabeth Pressler			3.0-1904
	Lois Battuello			3.0-1908
	Sally Kimsey			3.0-1909
	Gopal Shanker			3.0-1911
Public Hearing #3 – April 4, 2007				
	Gopal Shanker			3.0-1944
	Eve Kahn			3.0-1948
	Harold Moskowitz			3.0-1952
	Lois Battuello			3.0-1953
	Bob Barbarick			3.0-1954
	Robert Moore			3.0-1955
	Lou Penning			3.0-1956
	Dieter Deiss			3.0-1959
	Kathy Hayes	North Bay Association of Realtors		3.0-1963
	Harold Moskowitz	County Supervisor		3.0-1967
	George Hemke			3.0-1968
	Fred Choppington			3.0-1972
Public Hearing #4 – May 30, 2007				
	Kellie Anderson			3.0-1996
	Margaret Ann Watson			3.0-1998
	Louis Penning	Napa County Bicycle Coalition		3.0-2000
	John Tully			3.0-2004
	John Stevens	Living River Council		3.0-2005
	Chris Malan	Earth Defense of the Environment Now (EDEN)		3.0-2008
	Marsa Tully			3.0-2010
	Genji Schmeder			3.0-2011
	Donna Morgan			3.0-2014
	Nicole Byrd	Greenbelt Alliance		3.0-2015
	Sandy Ellis	Napa County Farm Bureau		3.0-2019
	Olaf Beckman			3.0-2024

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	Tim Thullen			3.0-2028
	Don Gordon			3.0-2031
	Eve Kahn			3.0-2034
	Paul Roberts			3.0-2035
	Robin Lail			3.0-2039
	Duane Wall	GP Steering Committee		3.0-2041
	Mary Ellen Boyet	GP Steering Committee		3.0-2046
Public Hearing #5 – June 14, 2007				
	Genji Schmeder			3.0-2078
	Jeff Redding on behalf of	Ron Walker		3.0-2082
	Patrick Griffith			3.0-2086
	Rich Ramirez	City of American Canyon		3.0-2091
	Harold Moskowite			3.0-2092
	Wendy Wallin	Berryessa Trails and Conservation		3.0-2094
	John Tully			3.0-2098
	Kellie Anderson			3.0-2101
	William Morgan			3.0-2104
	Cindy Barbarick			3.0-2106
	Elisabeth Frater	Sierra Club, Napa Group		3.0-2107
	Betty Foote			3.0-2111
	Sandy Ellis	Napa County Farm Bureau		3.0-2115

3.3 APPROACH AND FORMAT TO COMMENTS AND RESPONSES

State CEQA Guidelines 15088 requires that lead agencies evaluate all comments on environmental issues received on the Draft EIR and prepare a written response. The written response must address the significant environmental issue raised and must provide a detailed response, especially when specific comments or suggestions (e.g., additional mitigation measures) are not accepted. In addition, the written response must be a good faith and reasoned analysis. However, lead agencies need only to respond to significant environmental issues associated with the project and do not need to provide all the information requested by commenters, as long as a good faith effort at full disclosure is made in the EIR (State CEQA Guidelines 15204).

State CEQA Guidelines 15204 recommends that commenters provide detailed comments that focus on the sufficiency of the Draft EIR in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. State CEQA Guidelines 15204 also notes that commenters should provide an explanation and evidence supporting their comments. Pursuant to State CEQA Guidelines 15064, an effect shall not be considered significant in the absence of substantial evidence.

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State CEQA Guidelines 15088 also recommends that where response to comments results in revisions to the Draft EIR, those revisions be noted as a revision to the Draft EIR or in a separate section of the Final EIR.

Several comment letters included common comments on issues associated with the project and the Draft EIR. In order to streamline the Final EIR, master responses have been prepared for these common comments and address the following issue areas:

- Water Supply
- Range of Alternatives Considered
- Biological Resources
- Climate Change

Following the master responses, written comments on the Draft EIR are reproduced, along with responses to those comments. To assist in referencing comments and responses, the following coding system is used:

Public agency comment letters are coded by letters and each issue raised in the comment letter is assigned a number (e.g., Comment Letter A, comment 1: A-1).

Individual and interest group comment letters are coded by numbers and each issue raised in the comment letter is assigned a number (e.g., Comment Letter 1, comment 1: 1-1).

Where changes to the Draft EIR text result from responding to comments, those changes are included in the response and demarcated with revision marks (underline for new text, ~~strike-out~~ for deleted text). Comment-initiated text revisions to the Draft EIR and minor staff-initiated changes are also provided and are demarcated with revision marks in Section 4.0, Errata, of the Final EIR.

3.4 MASTER RESPONSES

3.4.1 WATER SUPPLY MASTER RESPONSE

Several comment letters expressed concerns associated with the water supply policy discussion and analysis provided in the General Plan Update and associated Draft EIR. Comment letters that focused on this topic include, but are not limited to, City of American Canyon (Comment Letters K, R, and Y), Local Agency Formation Commission of Napa County (Comment Letter Q), City of Napa (Comment Letter BB), St. Helena Hospital (Comment Letter 97), Napa County Farm Bureau (Comment Letter 99), Save Rural Angwin (Comment Letter 101), Sierra Club (Comment Letter 121 and 153), EDEN (Comment Letter 148), and Paula Peterson (Comment Letter 152). Specifically:

- The City of American Canyon (Comment Letters K, R, and Y) expressed water supply concerns for unincorporated areas served by the City (south County industrial areas) and that the General Plan and Draft EIR failed to identify the City's Urban Water Management Plan. The City suggests that the impact analysis did not appear to account for growth of the south County industrial uses, and that the County should require projects to provide additional information such as how long-term water demand will be met, the impacts to the environment as a result of the provision of water to the project, and how various impacts to water supply will be mitigated. The City of American Canyon expressed concern over cumulative impacts of increased water demands and

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suggested mitigation measures, water conservation and recycling requirements, and pacing of development so as not to surpass available water supply. American Canyon also asked that information be added that describes water sources and the relationship between the sources and the locations receiving the water.

- LAFCO (Comment Letter Q) notes that the County needs to coordinate with LAFCO to verify availability of adequate water service to accommodate new developments.
- The City of Napa (Comment Letter BB) also indicated that additional information is needed to substantiate additional water demands not included in the 2050 Napa Valley Water Resources Study; that study did not include projected demands associated with anticipated development or identify new water supplies for such development. The City of Napa asked that the General Plan and Draft EIR include information on and demonstrate adequacy of available water supplies to serve development.
- The Napa County Farm Bureau (Comment Letter 99) noted the increased demand for water, the decline of groundwater levels, and the necessity to promote recycled water. The Farm Bureau suggests that the General Plan and the EIR provide insufficient information regarding water supply and that there should be prioritization of groundwater for agricultural and rural residential, not urban, use.
- The Sierra Club (Comment Letters 121 and 153) suggests available water supply should be assessed to ascertain whether the supply can support growth, as there is no guarantee of future water supplies. When looking at supply, demand on the Central Valley project and the effect of drought should be considered, as should the linkage between the groundwater table (and associated trends) and streamflows. The supposition that groundwater supply is sufficient to support existing and future increased population and agricultural operations is not appropriate.
- St. Helena Hospital (Comment Letter 97) notes that the Baseline Data Report and EIR contain no conclusions indicating the groundwater aquifer serving the Deer Park area is threatened, and a preliminary study conducted by the Howell Mountain Mutual Water Company shows that existing supply exceeds demand. The hospital believes that a policy protecting groundwater supply is unnecessary.
- Save Rural Angwin (Comment Letter 101) notes that the EIR does not include an analysis of available water services, water available for growth, and how growth impacts groundwater which Save Rural Angwin characterizes as crucial to existing and proposed agricultural uses.
- Paula Peterson (Comment Letter 152) notes concern over decreasing groundwater levels and asks that protections for groundwater be added to decrease threats to streamflows, healthy fisheries, and habitats. Ms. Peterson suggests that groundwater data is needed to evaluate impacts in Angwin and pumping should not be allowed if it accelerates overdraft of supply.
- EDEN (Comment Letter 148) commented that they would like a Water Element incorporated into the General Plan and included their rationale for the request: Napa River water is over-appropriated, groundwater aquifer recharging is at risk, water availability is affected by wine production, and the General Plan does not address actual water availability. EDEN also identifies issues associated with the impact of climate change on water supply availability. EDEN suggested that local water sources

be emphasized and protected and water stewardship encouraged, as imports cannot be guaranteed and the environmental effects of water imports need to be addressed.

This master response updates and supports the analysis and conclusions of the Draft EIR, and provides responses to all of the issues raised by the commenters and summarized above. None of the information provided here changes the conclusions of the Draft EIR, and impacts related to water service would remain significant and unavoidable under all alternatives for the reasons described herein and on Draft EIR pp. 4.13-40 through -47 and pp. 6.0-29 and -64. In addition, impacts related to groundwater supplies would remain significant and unavoidable for the reasons described herein and on Draft EIR pp. 4.11-62 through -65. As noted in Section 2.0, Preferred Plan, of this Final EIR, the Preferred Plan would also result in significant and unavoidable groundwater and water supply impacts.

CEQA Requirements

In its recent decision in the case of *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova (Vineyard Area)*, the California Supreme Court set forth several general principles for analyzing the sufficiency of water supplies for a large new development project. While Napa County's proposed General Plan Update (GPU) is not a large new development project – and in some cases, the development that is projected to occur under the Draft EIR alternatives would occur whether or not the GPU is adopted – the Court's guidance is used here to demonstrate the validity of the Draft EIR's analysis. In summary, the Court found that:

- an environmental document cannot ignore or assume a solution to water supply problems;
- a review for a large project (or, presumably, a General Plan) proposed to be built out over a period of years cannot limit its analysis to water supplies needed for the first phase;
- future water supplies may not be speculative “paper water” supplies, and the analysis must include an analysis of the likelihood of the water's availability; and
- there must be some analysis of the environmental impacts of possible alternative supplies where any uncertainty exists.

Importantly, in the *Vineyard Area* case, the Court held that an EIR prepared for a large development project may not address water issues by simply providing that the development will not proceed if the primary future water supply fails to materialize.

The Draft EIR prepared for the Napa County General Plan Update is different from the EIR reviewed by the Court in the *Vineyard Area* case in three important respects: first, it analyzes a plan by utilizing projections of development that might occur subject to the plan, instead of analyzing a specific urban development project; second, it assesses potential impacts related to water supply in a diverse environment where multiple water purveyors provide services to different geographic areas and where large sections of the County are served by groundwater only; and third, it concludes that the proposed General Plan Update (under all alternatives) will result in significant and unavoidable impacts.

As further discussed below, the Draft EIR's analysis of the proposed General Plan Update does meet the California Supreme Court's principles identified above for analyzing water supply sufficiency in an EIR.

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Water Supply and Demand Information in the Draft EIR

The level of detail and analysis provided in the Draft EIR and described below is consistent with the extent of specificity of the proposed project (Napa County General Plan Update – the County's constitution that establishes the vision and policy direction for land use and growth decisions for 479,000 acres of the unincorporated portion of the County), consistent with State CEQA Guidelines Section 15146 (the degree of specificity required in an EIR needs to correspond to the degree of specificity of the proposed action).

The Draft EIR provides a description of current water service providers county-wide and their current water supply resources on Draft EIR pp. 4.13-14 through -36. As indicated in this section of the Draft EIR, there are multiple (over 20) public and private water purveyors in Napa County which provide water to designated service areas, each constituting small subsets of the entire unincorporated area. While these service providers collectively supply the most densely populated and intensively used portions of the County (e.g., Silverado Country Club, Angwin, the Airport Industrial Area, etc.), the vast majority of the unincorporated area's acreage is served principally by groundwater resources, as described on pp. 4.11-18 through -22 of the Draft EIR.

While an area-specific detailed analysis of potential growth on every water purveyor and every water service area in the County may be ideal, it would be inconsistent with the specificity of the project under evaluation (adoption of a proposed General Plan Update) and would not be "reasonably feasible" for the purposes of evaluating the water supply impacts of the proposed General Plan Update. State CEQA Guidelines Section 15151 (Standards for Adequacy of an EIR) identifies that an EIR analysis need not be overly detailed. Specifically, Section 15151 states: "An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." In this case, the Draft EIR provides adequate data and analysis to make the necessary impact determination regarding water supply impacts from the adoption of the proposed General Plan Update. Additional analysis of each County water purveyor would be not be feasible based on the cost and time that would be involved and would not materially change the impact conclusions identified in the Draft EIR.

The analysis presented on Draft EIR pp. 4.13-40 through -47 concludes that combined demands of the cities and the unincorporated area of the County are expected to exceed current and projected sources of water supply under year 2020 and 2050 conditions county-wide. More specific information and analysis is provided regarding areas where information exists, and the analysis concludes that demands are expected to exceed supplies based on the study of the Napa Valley Basin provided in Draft EIR Appendix J (2050 Napa Valley Water Resources Study). This study specifically notes that the total unincorporated water demand for current conditions exceeds available water supplies under single-year and multiple-dry year conditions in the Napa Valley Basin (see Draft EIR p. 4.13-13).

While there have been extensive technical studies on groundwater conditions for Napa Valley, the Draft EIR acknowledges that there is limited data on the groundwater conditions and total groundwater available for land areas east of the Napa Valley. As further described below, hydrologic modeling of the entire County (including the impact on surface and groundwater conditions of the eastern portion of the County) was conducted in the Draft EIR to address water resource impacts from vineyard development. The modeling analysis identified that vineyard development would result in increased groundwater pumping that would result in varied (both increases and decreases) effects on groundwater discharge to surface waters and groundwater

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storage for the eastern portion of the County. These findings contributed to the conclusion that water supply impacts would be significant and unavoidable.

Projections of anticipated cumulative water demand in the cities and the unincorporated areas of the County that collectively comprise the Napa Valley Basin (based on the data contained in the 2050 Napa Valley Water Resources Study) are quantified in the Draft EIR (see Draft EIR Tables 4.13.3-35, 4.13.3-36, and 4.13.3-37), as are projected water demands of vineyard development outside of the Napa Valley Basin (approximately 9,875 acre-feet annually) and specific water demands of land use development anticipated under each Draft EIR alternative (A through E) (see Draft EIR pp. 4.13-45 through -46, 6.0-29, and 6.0-64) that include growth in areas outside of the Napa Valley.¹ Based on these projections and available information on current water supply sources, the Draft EIR concludes that this impact is significant and unavoidable for all of the alternatives evaluated (although all alternatives vary on estimated water demands).

Regarding the American Canyon Water Service Area, which includes the County's Airport Industrial Area, the Draft EIR relies on the City's Urban Water Management Plan (see Draft EIR p. 4.13-17 and Appendix J). That study projects future water demand including build-out of the County's industrial area as expected in all Draft EIR alternatives, and concludes that available supplies will be sufficient in normal years through at least 2025 (the horizon year included in the City's study). The study also concludes that demand will exceed supplies in single dry and multiple dry years, and suggests demand management measures and water supply projects to address reliability and supply issues. (More information about American Canyon's water supply and demands within their service area is provided below.)

Consistent with the *Vineyard Area* decision, the Draft EIR (pp. 4.13-42 and -43 and Appendix J) identifies alternative sources of water supply being pursued by the cities and the County and the potential environmental effects of obtaining these water supplies (Draft EIR Table 4.13.3-38). The Draft EIR also discusses unincorporated areas of the County that rely on groundwater and the potential for overdraft and impacts to existing wells, as well as possible outcomes such as re-drilling to deepen wells and/or restrictions on groundwater use similar to those currently in place for the Milliken-Sarco-Tulocay (MST) Groundwater Basin (Draft EIR p. 4.13-43).

Water Supply and Demands by Geographic Area

Some commenters expressed concerns that the Draft EIR water supply analysis did not provide adequate information regarding water supplies and demand by geographic areas of the County. As previously noted, the Draft EIR provides a description of current water service providers county-wide and their current water supply resources, which include water supply sources and planned improvements by the cities, County water districts and special districts, and private water suppliers (see Draft EIR pp. 4.13-14 through -36 and Draft EIR Appendix J).

The Draft EIR calculates anticipated water demands associated with residential and non-residential development projected under each alternative by the year 2030 (Draft EIR pp. 4.13-45 and -46 and pp. 6.0-29 and -64), and also presents an estimate of water demands associated with new and re-planted vineyards and cities in the County as a whole by the year 2020 and 2050 (Draft EIR pp. 4.13-41 and -42). The analysis concludes that demand will outpace supplies, particularly in single dry and multiple dry years, leading to a conclusion that the county-wide cumulative impact is significant and unavoidable. Mitigation measures are identified (Draft EIR

¹ As noted in Section 2.0 of this Final EIR, the Preferred Plan would result in water demand that is most similar to the No Action Alternative and Alternative A since it is projected to result in a similar amount of housing, employment, and vineyard development.

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p. 4.13-46) that would reduce the severity of the impact, but would not make it less than significant. These measures as well as additional policies focused on water conservation have been included in the Preferred Plan. (See the Conservation Element, Water Resources section.)

Since the location of most development projected under the Preferred Plan is unknown and the County has such a diverse assortment of water purveyors associated with various geographic areas, a comparison of water supply and demand by subarea was not considered feasible in the context of the Draft EIR. However, each of the subareas of the County addressed by commenters is discussed briefly below, with an emphasis on commenters' concerns and how these are addressed in the Draft EIR and in the Preferred Plan described in Section 2.0 of this Final EIR.

Airport Industrial Area

The preferred plan and all of the Draft EIR alternatives assume that the County's Airport Industrial Area (AIA) will continue to build-out consistent with the 1986 Specific Plan for the area, which will remain in effect whether or not the General Plan is updated. As described in Appendix B of the Draft EIR, the area currently (2005) includes over 4.4 million industrial square feet. And as described in Section 2.0 of this Final EIR, the area is projected to accommodate up to an additional 11.2 million square feet, or 8,259 additional jobs by 2030, assuming that approximately 280 acres are annexed to the City of American Canyon in a negotiated agreement that also calls for establishment of a growth boundary by the voters of that City.

As explained above, the Draft EIR relies on the City of American Canyon's Urban Water Management Plan (UWMP) and West Yost's Water 2050 Study for projections of water demand in this area and for information about available supplies. Specifically, the analysis suggests (p. 4.13-17) that demand for potable water from American Canyon will increase in the future to approximately 6,806 acre feet per year (for the entire City service area).² In the Airport Industrial Area alone, the City's UWMP (p. 5-3 – see UWMP in Draft EIR Appendix J) suggests that future demands will total 1,038 acre feet per year based on unit demand derived from historical water use.³

According to the UWMP, under existing and future conditions, potable water supplies are projected to exceed demand in normal years, and no additional supplies are needed for those years. In a single dry year (based on a repeat of 1977 hydrology) or multiple dry years (based on a repeat of 1990-1992 hydrology), demand for potable water is projected to exceed supplies. The UWMP indicates that the projected single-dry-year shortages range from 24 percent in 2005 to 11 percent in 2025, and that the projected multiple-dry-year shortages range from 11 percent in 2005 to 4 percent in 2025. These percentages are lowest in 2025, the last year in the projections, because of the additional water supplies described in the UWMP that American Canyon will have by then. The UWMP states that American Canyon can address these dry-year shortages through voluntary or mandatory water measures to reduce consumers' water use in those years and the UWMP contains a water shortage contingency plan to address these shortages. The measures listed in the UWMP's water shortage contingency plan are typical of

² The number of 6,806 presented in the Draft EIR is derived from the 2050 Water Study by West Yost and is considered overly conservative (large). The draft of the City' UWPM included in Appendix J of the Draft EIR (Table 5-2) states that 2025 demand will be 6,278 AFY, and the County understands that the City's final UWMP puts this number at 6,387 AFY.

³ The County understands that the City's final UWMP revised the demand figure presented in their draft from 1,038 to 1,254 AFY.

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the measures that water purveyors in California use to address dry-year shortages of these magnitudes.

American Canyon's UWMP therefore demonstrates that American Canyon has adequate water supplies for all existing uses, and that American Canyon already has a contract to obtain adequate additional water supplies (not "paper water") for all anticipated development within American Canyon's service area.

The UWMP also identifies possible actions that American Canyon could use to reduce or eliminate these projected dry-year shortfalls. For example, simply by advancing by one year its exercise of its options to purchase treated water from the City of Vallejo, American Canyon could significantly reduce its projected dry-year shortages for 2010, 2015 and 2020. The UWMP also states that American Canyon may be able to purchase new water supplies from Rio Vista or Dixon, and that American Canyon may be able to develop local groundwater supplies. While these additional supplies are not necessary for American Canyon to meet its projected future demands (with reasonable dry-year reductions), American Canyon could decide to obtain some or all of these additional supplies to eliminate or reduce the predicted dry-year shortages.

In light of this analysis in American Canyon's own UWMP, the County believes that development in the Airport Industrial Area can proceed according to the adopted 1986 Specific Plan, subject to project-specific review of new development projects, without contributing to county-wide significant environmental impacts related to water supplies. Project-specific reviews may attach water conservation conditions or other conditions to moderate future water demand and must include water supply assessments if thresholds in CA Water Code Section 10912 are met. However, because of the detailed analysis in the 2005 UWMP, individual projects within the Airport Industrial Area do not require project-by-project water-supply analyses, as frequently suggested by the City. Further, the water and sewer services that will be provided by American Canyon to parcels within the Airport Industrial Area will not require any future LAFCO approvals, for the reasons discussed in LAFCO's Resolution No. 07-27, adopted by LAFCO on October 15, 2007.

Hess Vineyard

The Hess Vineyard is proposed for re-designation from Industrial to Agriculture, Watershed and Open Space in the Preferred Plan, similar to Draft EIR Alternatives B, C, and D. In these alternatives and in the No Project Alternative and Draft EIR Alternative A (which assume no change to the current agricultural use within the timeframe of the General Plan), there would be no change in water demand and no impacts on water supplies associated with this property.

In Draft EIR Alternative E, the property would transition to industrial use, and the associated water demand would exceed projections contained in the City of American Canyon's *Urban Water Management Plan*. The Draft EIR identifies that this alternative would generate the largest water demand and would have the most severe water supply impact of the alternatives evaluated. Pursuant to the *Vineyard Area* case, substantial additional analysis and subsequent environmental review would be required to identify additional supplies and affect this specific land use change to industrial uses. LAFCO review and approval would also be required for extension of urban services to this site.

Napa Pipe and Boca/Pacific Coast

The Preferred Plan would re-designate the Napa Pipe and Boca/Pacific Coast sites from Industrial to Study Area, indicating that further study is needed to determine the sites' suitability

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for transition to alternative uses such as housing. The effect of this re-designation would be to maintain the sites in industrial use, consistent with the No Project Alternative and Draft EIR Alternative A, until further study and another General Plan amendment is undertaken. Industrial (non-residential) use of these sites is projected to involve additional demands for up to 576 acre-feet per year (AFY), or about 20% of the total additional demands associated with Draft EIR Alternative A presented on Draft EIR p. 4.13-45, excluding demands associated with vineyards. The Pacific Coast/Boca site is currently only served by private wells, while the Napa Pipe site is served by both private wells and the City of Napa municipal water. While the City has a municipal service connection at the Napa Pipe site, it has been used infrequently and the private wells on the site serve as the primary water supply.

Water demand associated with potential reuse of the Napa Pipe and Boca/Pacific Coast sites for non-industrial uses is currently being assessed as part of a separate planning process, and redevelopment of the sites would require preparation of a project-specific water supply assessment pursuant to California Water Code Section 10912. At a macro level, the analysis included in the Draft EIR assigns a water demand to the land uses included for these sites in each Draft EIR alternative based on conservative water demand factors identified in the 2050 Water Study. Thus, the projected county-wide demands associated with each Draft EIR alternative include between 51 and 576 AFY associated with non-residential uses on these sites and between 429 and 1,571 AFY associated with residential uses on these sites, depending on the reuse scenario.

As stated above, because there are not currently available supplies to meet projected demands on a county-wide basis, the Draft EIR concludes that the water supply impact is considered significant and unavoidable. Water demands at these sites, if they transition to alternative uses (Draft EIR Alternatives B, C, and E), would necessarily contribute to the county-wide significant and unavoidable impact identified in the Draft EIR until and unless site-specific water supply assessments demonstrate the availability of reliable (and not "paper") water supplies pursuant to the *Vineyards Area* case, Senate Bill 610 (water supply assessment requirements added to Public Resources Code and Water Code), and Senate Bill 221 (water supply determination requirements added to the Government Code). Further, LAFCO approval would be required for any "new" or "extended" services by the City of Napa outside the City boundaries, or for establishment of a new special district if one is proposed as an alternative water purveyor.

Angwin and Deer Park

The Preferred Plan includes a policy regarding development in Angwin which states: "The existing density of development in the Angwin area and the County's desire to be protective of groundwater supplies precludes future subdivision activity that relies on net increases in groundwater use within the urbanized area of Angwin." No similar policy has been included with regard to Deer Park, and Deer Park's significant private institution, St. Helena Hospital, provided additional information regarding water supply sources in the Deer Park/Angwin area of the County in response to the February 2007 draft plan. This information (summarized below), regarding groundwater and one of the private water providers listed in Table 4.13.3-34 of the Draft EIR, supplements county-wide water supply information presented in the Draft EIR, with information specific to the area, but does not alter the conclusions of the Draft EIR analysis.

Based on the "Water Supply Evaluation – Angwin/Deer Park Area," there are approximately 34,500 acre-feet of groundwater storage available in this area (Water Solutions Inc., 2003). Recharge is estimated at 989 acre-feet annually, with current groundwater usage estimated at 1,033 acre-feet annually. (The report notes that given the range of assumptions used, a near

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balance between use and recharge can be assumed.) In addition to groundwater resources in this area, Howell Mountain Mutual Water Company has existing permitted surface water rights for 562.45 acre-feet annually and anticipates that this water source will meet water demands through the life of the General Plan (Wagner & Bonsignore, 2007). Based on residential connections identified in Draft EIR Table 4.13.3-34, the current residential water demand for Howell Mountain Mutual Water Company is estimated at approximately 145 acre-feet annually.

As stated above, because there are not currently available supplies to meet projected demands on a county-wide basis, the Draft EIR concludes that the water supply impact is considered significant and unavoidable. This conclusion would not apply to the Angwin/Deer Park areas if future development conforms with the proposed policy related to net increases in groundwater use in Angwin, and if additional vineyard development and associated groundwater demands in the area are limited. However, water demands in this subarea of the County may contribute to the county-wide significant and unavoidable impact if substantial additional vineyard development occurs. Mitigation measures 4.13.3.1a and 4.11.5a, b, d, and e would address this impact, although given the variability of groundwater supplies depending on site geology and the absence of definitive monitoring data in many areas of the County, the Draft EIR concludes that the impact would remain significant. These mitigation measures, and other policies related to groundwater use and water conservation, have been incorporated into policies within the Preferred Plan.

LAFCO review of water (and sewer) services in Angwin would only be required if a special district were proposed. While the Preferred Plan (like the existing General Plan) "encourages replacement of existing septic systems with municipal wastewater treatment as feasible," it stops short of proposing special district formation.

Groundwater-Served Areas Outside the Main Napa Valley Basin

While there have been extensive technical studies on groundwater conditions for Napa Valley, the Draft EIR acknowledges that there is limited data on the groundwater conditions and total groundwater available for land areas east of the Napa Valley (e.g., Putah Creek Watershed and Suisun Creek Watershed). The varied topographic and geologic features of the eastern portion of the County do not provide for conditions that allow uniform groundwater basins/aquifers. However, hydrologic modeling conducted for the Draft EIR associated with hydrologic effects of additional vineyard development under four scenarios included the use of the MIKE SHE surface-groundwater model that simulated groundwater return flows and identified changes in groundwater balance in the areas of discharge to surface waters, recharge, pumping, and groundwater storage (see Draft EIR Appendix H). As specifically noted on Draft EIR p. 4.11-63:

*Modeling results show most evaluation areas with decreases in groundwater discharge to the channel network (baseflow), while in the Berryessa and Suisun areas, baseflow increased (see **Appendix H**). In general, groundwater recharge and pumping both increased. The changes in groundwater recharge and groundwater pumping relative to current conditions indicate that although groundwater recharge generally increased, these increases would not keep pace with the associated increases in groundwater pumping and would result in changes in groundwater discharge to surface waters. Thus, the net effect of the vineyard development was a decline in water storage.*

In the case of land areas outside of Napa Valley (e.g., East Hills, Berryessa, and Suisun evaluation areas as identified in Draft EIR Appendix H), the modeling analysis identified that vineyard

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development would result in increased groundwater pumping that would result in varied (both increases and decreases) effects on groundwater discharge to surface waters and groundwater storage (general indicators of changes in total groundwater available) under normal and drought conditions (see Draft EIR Appendix H Tables 3, 4, 27, and 28). Also, the model identified localized reductions in groundwater levels in the East Hills evaluation area (see Draft EIR Appendix H Figure 7). These findings contributed to the conclusion that water supply impacts would be significant and unavoidable, and resulted in incorporation of mitigation measures and policies into the water resources section of the Preferred Plan (in the Conservation Element).

Interaction Between Groundwater Levels and Surface Waters

Commenters expressed concerns that the Draft EIR failed to provide information or analysis on the impact of increased groundwater usage on surface water features in the County, including information on groundwater trends and base flows for waterways in the County. Draft EIR Appendix H contains detailed data on flow and temperature conditions under current conditions as well as modeled future conditions under the four vineyard development scenarios ranging from 10,000 to 15,000 acres of new vineyards. Four scenarios are presented because the precise location of future vineyard development is impossible to predict, so the scenarios were developed to assess a range of possibilities.

The modeling examined potential base flows related to the Napa River, Salvador Creek, Cannon Creek, Wooden Valley Creek, and Pope Creek (see the Draft EIR Appendix H - "Technical Memorandum – Modeling Analysis in Support of Vineyard Development Scenarios" technical appendices A through E). This modeling data also provides flow and temperature data for drought conditions as well as the consideration of the use of recycled water in the Coombsville and Carneros areas. In regard to groundwater data, Draft EIR Appendix J (2050 Napa Valley Water Resources Study) provides groundwater elevation and trend data for groundwater conditions near the cities of Calistoga, St. Helena, and Napa and for the MST area (see Draft EIR Appendix J – 2050 Napa Valley Water Resources Study – technical memo 5 Figures 3 through 15). As noted by this groundwater elevation data, groundwater levels tend to be higher in the northern portion of the Napa Valley (5 to 10 feet below the land surface in the cities of Calistoga and St. Helena from 1975 to 2002) and lower in the southern portion of the Napa Valley (10 to 20 feet below the land surface in the Town of Yountville and the City of Napa from 1975 to 2002). MST groundwater elevation data from well facilities identify groundwater levels from 5 feet to over 200 feet below the land surface (see Draft EIR Appendix J – 2050 Napa Valley Water Resources Study – technical memo 5 Figures 13 through 15).

Draft EIR impacts 4.11.5, 4.11.6, 4.6.4, and 4.13.3.1 all address the issue of the environmental effects associated with groundwater decline. As noted on Draft EIR p. 4.11-63 (associated with Impact 4.11.5), the hydrologic modeling results show most evaluation areas with decreases in groundwater discharge to the channel network. While the model results identify that groundwater recharge generally increased, these increases would not keep pace with the associated increases in groundwater pumping and would result in changes in groundwater discharge to surface waters (see Draft EIR Appendix H Tables 3, 4, 27, and 28). The associated impacts to aquatic resources are addressed specifically under Draft EIR Impact 4.6.4 that specifically states (see Draft EIR p. 4.6-29):

The changes in groundwater recharge and groundwater pumping relative to current conditions indicate groundwater recharge generally increased; however these increases would not keep pace with the associated increases in groundwater pumping, and thus could result in changes in groundwater discharge (interflow) to surface waters. Loss of stream baseflow could result in loss of intragravel flows to spawning beds in spring and adversely direct egg

mortality; increases in temperature; reduction in flows that reduce summer rearing habitat, and localized water elevation changes that create barriers to intra-watershed movement and/or migration to and from Napa County watersheds.

The Draft EIR specifically identifies this impact as significant and identifies that implementation of mitigation measure MM 4.11.5e (which would require that new well facilities demonstrate substantial reductions in groundwater discharge to surface waters that would alter critical flows to sustain riparian habitat and fisheries) would mitigate the impact to less than significant. This conclusion is based on the fact that groundwater conditions in the Napa Valley vary given differing characteristics of the alluvial aquifer and tuffaceous volcanic aquifer as well as from clay lenses and fault features (see Draft EIR Figure 4.10-2 and p. 4.11-21). Groundwater elevations identified above also suggest that currently surface water channels and groundwater conditions over a large part of the Napa Valley are hydraulically disconnected (i.e., groundwater levels that are far below the surface water channel bottom to allow for groundwater discharge). As noted in the Draft EIR Section 4.10, Geology and Soils, land areas outside of the Napa Valley have varied topographic, geologic, soil conditions and fault features that do not allow for uniform groundwater basins/aquifers and would also not likely consist of uniform hydraulic connection between groundwater and surface water conditions. As a result, groundwater discharge to surface water channels in the County is likely to be based on site-specific geologic and groundwater conditions (e.g., perched groundwater conditions and springs) in proximity of a surface water feature. Thus, the site-specific groundwater drawdown effect and change in groundwater flows from the operation of a new well located in localized groundwater discharge locations are the important factors for addressing and mitigating loss of groundwater discharge to surface water channels in the County, which are included as performance standards in mitigation measure MM 4.11.5e.

Consideration of Additional Mitigation Measures

Commenters requested that the proposed General Plan Update and Draft EIR provide expanded policy provisions and mitigation measures to further reduce water supply impacts from subsequent activities under the General Plan. Since release of the February 2007 Draft General Plan Update, the Conservation Element has been further revised to include the following additional policy provisions:

- Prioritization of groundwater resources for agricultural and rural residential uses.
- Provision of buffers from municipal water supply reservoir intakes to protect water quality.
- Continued implementation of protective groundwater provisions in the County Code.
- Water stewardship activities, dissemination of information, and mapping of groundwater recharge areas in the County.
- Required verification of adequate water supply as part of project consideration.
- Coordination with other agencies in the understanding, monitoring, and planning related to groundwater and surface water resources.
- Implementation of water conservation measures.

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- Monitoring of groundwater conditions (by the County), voluntary monitoring by property owners, and implementation of alternative water supply sources where feasible (e.g., use of recycled water).

Other Comments Regarding Water Supplies

Commenters' suggestions that the General Plan Update should include a stand-alone water element have been partially addressed by re-organizing and strengthening water-related policies in the Conservation Element. While this would allow policy makers to pull water resources out as a separate element if desired, the close relationship between water resources and natural resources (another topic covered in the Conservation Element) argues for the current organizational structure.

While the comment regarding over-appropriation of surface water rights should rightfully be addressed first and foremost to the State Water Resources Control Board, the proposed General Plan Update now includes a policy which commits the County to "Work with other agencies to develop a comprehensive understanding of potential deficiencies in surface water supplies." Please also see responses provided to comments from the State Water Resources Control Board (Letter F). As noted on Draft EIR pp. 4.11-24 through -26, the State Water Resources Control Board is the sole agency responsible for the granting and administration of surface water rights over all waters of the state in the County, which includes surface waters of the Napa River watershed.

3.4.2 ALTERNATIVES MASTER RESPONSE (RANGE OF ALTERNATIVES CONSIDERED)

A handful of the comment letters address the range of alternatives considered in the Draft EIR. Specifically:

- Comments 99-10 and 99-64 [Farm Bureau] request that a new "preferred alternative" be created that matches the guiding vision of the Plan and that a clear summary of its impacts and mitigation measures be provided for decision makers.
- Comment 109-2 [Tom Gambel] suggests that the alternatives fail to "bracket the draft general plan with growth alternatives" because they do not include (a) an alternative based on ABAG projections or (b) a no-growth alternative. The comment goes on to suggest that "the argument that [ABAG projections] are unreasonably low lacks merit. The purpose of this Draft EIR study is to compare the impacts of growth with a baseline of no growth or the lowest possible growth to achieve true bracketing." The commenter suggests that the Draft EIR should either add a scenario where the "growth variables" eliminate significant unavoidable impacts or add one based on ABAG projections or no growth.
- Comment 121-84E [Sierra Club] suggests that the Draft EIR fails to include a reasonable range of alternatives because "With respect to the impact on biological resources (and some of the other topics), no... range of alternatives is provided." The commenter then observes that impacts of Alternative D are "disconcerting" since they are the same as in other alternatives.
- The same commenter suggests inclusion of an alternative that "eliminates the urban bubbles" and "adopts a proactive... approach to protection of our natural resources."
- Comment 130-2 [Napa Valley Vintners] suggests that "each alternative exceeds the 1% population growth cap" and requests that the impacts of an alternative based on ABAG

3.0 COMMENTS AND RESPONSES TO COMMENTS

projections be assessed “when measuring the impacts of the final preferred version” of the Plan.

- Comment 149-4 [Donna Morgan] requests “development of an environmentally superior alternative which removes all lands zoned as agricultural from urban land use designations on Land Use Map.”

In addition, many commenters suggest revisions to the Draft GPU which could be viewed as a request for revisions or additions to the Draft EIR Alternatives. For example, comment letter 101 [Save Rural Angwin] proposes a new map of Angwin with an “Institutional” rather than “Urban Residential” designation, something that is not explicitly included in any of the Draft EIR Alternatives.

This master response describes CEQA requirements vis a vis alternatives, how the range of alternatives in the Draft EIR was crafted, and provides reasons why the range of alternatives analyzed is considered “reasonable.” The master response also explains how the Draft EIR is structured using a number of alternatives to “bracket” the final outcome of the planning process, how some alternatives suggested by the commenters are included within the range of alternatives considered [Napa Valley Vintners], and why some alternatives were rejected as infeasible [Tom Gambel]. Responses to each specific comment listed above are provided, as are changes to the text of the Draft EIR necessary to address the comments, including text changes designed to make Alternative D, the environmentally superior alternative, even more “superior” as suggested by the commenters [Sierra Club and Donna Morgan]. Please also see Section 2.0 of this Final EIR for a discussion of the revised draft General Plan Update, how it constitutes the “preferred plan” alternative requested by the Farm Bureau, and how its impacts are bracketed by the Draft EIR Alternatives.

CEQA Requirements for a Range of Reasonable Alternatives in an EIR

State CEQA Guidelines Section 15126.6(a) states that an environmental impact report (EIR) shall describe and analyze a range of reasonable alternatives to a project. The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice (State CEQA Guidelines Section 15126.6[f]). Alternatives to be considered are limited to ones that would avoid or substantially lessen any of the significant effects of the project and only those that the lead agency determines could feasibly attain most of the basic objectives of the project.

When addressing feasibility, the State CEQA Guidelines Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternatives are economic viability, availability of infrastructure, jurisdictional boundaries, and regulatory limitations. In addition to these provisions, State CEQA Guidelines Section 15364 defines feasible as:

capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. (See also Citizens of Goleta Valley, et al. v. Board of Supervisors of the County of Santa Barbara, et al.)

In addition to the above provisions, CEQA and published case law also require that lead agencies consider alternatives suggested (including those proposed and justified by objectors to an EIR) and explain why certain alternatives are infeasible (see *Laurel Heights Improvement Association v. Regents of the University of California* [Laurel Heights 1] (1988) 47 C3d 376 and *Citizens of Goleta Valley v. Board of Supervisors, supra*). However, an EIR need not consider

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every conceivable alternative to a project, nor is it required to consider alternatives that are infeasible. (See *Sequoyah Hills Homeowners Association v. City of Oakland* (1994) 23 Cal.App.4th 704, which supports the premise that an EIR need not consider every conceivable alternative.)

It should be noted that the purpose of analyzing alternatives is not to bracket the plan between growth and no growth alternatives or "to compare the impacts of growth with a baseline of no growth or the lowest possible growth" as suggested by one of the commenters cited above. Instead, the County's obligation under CEQA is to describe and analyze a "reasonable" range of alternatives that avoids or lessens significant impacts and meets most of the project objectives. To do this, the County has used a "bracketing" approach, whereby a range of alternatives was used to bracket the final outcome of the planning process. However the County has no obligation to identify "no growth" as the low end of the spectrum or bracket, since this is considered infeasible for the reasons explained later in this master response. Further discussion regarding the Draft EIR alternatives and growth projections are provided below.

As required by CEQA Guidelines Section 15126.6(e)(1), the Draft EIR also includes a discussion and analysis of the "No Project" alternative. The purpose of the No Project alternative is to allow a comparison of the environmental impacts of approving the proposed project with the effects of not approving it. Because the project is a General Plan Update, the No Project alternative reflects continuation of the existing 1983 General Plan without substantive changes. The No Project alternative is discussed in the Draft EIR in Section 6.3 (p. 6.0-4.)

Development of Range of Alternatives for the Napa County General Plan Update

As identified in Section 3.0, Project Description, and Section 6.0, Project Alternatives, of the Draft EIR, in August/September 2005 the General Plan Steering Committee (Steering Committee) began development of a range of alternatives intended to bracket possible outcomes of the planning process that would meet the project objectives, reduce or avoid impacts, and be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, legal, and technological factors. With input from the public, the Board of Supervisors, and the Planning Commission, seven alternatives were refined and described in a formal Notice of [EIR] Preparation (NOP) and associated EIR scoping materials. A full description of these alternatives is included in the Scoping Summary Report (see Appendix A of the Draft EIR).

As a result of public and agency responses to the NOP, as well as further input from the Steering Committee, the Planning Commission, and Board of Supervisors in January and February of 2006, these initial seven alternatives were further refined into the five principal alternatives considered in this Draft EIR:

- Draft EIR Alternative A, the Existing Plan Alternative⁴
- Draft EIR Alternative B, the Plan Update Alternative⁵
- Draft EIR Alternative C, the Plan Update Alternative 2⁶
- Draft EIR Alternative D, the Resource Preservation Alternative⁷
- Draft EIR Alternative E, the Jobs/Housing Balance Alternative⁸

⁴ Derived from NOP Alternative 2.

⁵ Derived from NOP Alternative 3.

⁶ Derived from NOP Alternative 4 combined with NOP Alternative 6.

⁷ Derived from NOP Alternative 1.

⁸ Derived from NOP Alternative 5 combined with NOP Alternative 7.

3.0 COMMENTS AND RESPONSES TO COMMENTS

These alternatives were identified as potentially meeting the basic objectives of the proposed General Plan Update, which are included in Chapter 3.0, Project Description, of the Draft EIR and listed below:

- Provide a legally adequate General Plan that reflects an updated vision for the County's future and provides a blueprint for future decisions regarding land use and development;
- Protect the County's rural character and maintain the total amount of land designated for agriculture in the County;
- Provide for the use and protection of the County's natural resources;
- Provide incentives to encourage good land stewardship such as a streamlined approval process for environmentally superior projects;
- Accommodate a reasonable amount of growth (i.e., housing and employment), principally within existing developed or "urbanized" areas;
- Identify performance standards and desired improvements for roadways in the County, including areas that currently experience congestion;
- Increase access to public open spaces and publicly owned recreational trails over the next 25 years; and
- Address other issues of concern to the community such as the need for moderate priced "workforce" housing, the needs of an increasingly aging population, incentives for historic preservation, and the effects of global climate change.

The following additional objective has been added to the list contained on p. 3.0-12 of the Draft EIR:

- Providing a set of goals and a policy framework that has been developed with extensive community input and that enjoys political support.

As explained on p. 1.0-4 and elsewhere in the Draft EIR, the "project" analyzed under CEQA is a comprehensive General Plan Update or General Plan amendment represented by the range of alternatives presented in the Draft EIR. This approach was used so that the planning process and the environmental review process could occur concurrently, allowing the CEQA analysis to inform plan development in a very immediate way.

The February 2007 Draft General Plan Update circulated concurrent with the Draft EIR consisted of proposed goals, policies, and action items that collectively shared many of the characteristics of Draft EIR Alternative C. The February 2007 Draft General Plan Update most closely resembled Alternative C in the Draft EIR because it (a) held out the possibility of a Measure J vote in Angwin and Pope Valley, (b) proposed a Rural Urban Limit (RUL) for the City of American Canyon, and (c) proposed a policy regarding reuse of historic structures. All of these things were included in the February 2007 Draft Plan, but not in Draft EIR Alternatives A or B. The principal features of Draft EIR Alternative C that were *not* included in the draft plan were (i) re-designation of the Hess Vineyard from industrial to agriculture; (ii) elimination of the Calistoga and Partrick Road "bubbles," reduction in size of the Berryessa Estates "bubble," and re-designation of the Pope Creek "bubble" from urban residential to rural residential; and (iii) the concept of "sustainable nodes" with additional housing in Oakville and Rutherford. (See Draft EIR Figure 3.0-6 and pp. 3.0-23 through 3.0-31.)

3.0 COMMENTS AND RESPONSES TO COMMENTS

Following the 120-day public comment period from February to June 2007, the draft General Plan Update was revised based on the input received. As explained in Section 2.0 of this Final EIR, the revised plan can be considered the "Preferred Plan" requested by the Farm Bureau and the final "project" under CEQA (although it may still be adjusted by the Planning Commission and the Board of Supervisors during plan adoption). This "project" most closely resembles Draft EIR Alternative A in terms of the amount of development that is projected to occur during the 25-year life of the Plan, and most closely resembles Draft EIR Alternative B and C in terms of proposed Land Use Map and policy changes. (See Section 2.0 for more information and analysis.)

Additional Alternatives/Suggestions Considered but Rejected from Further Consideration

As explained in Chapter 6.0, Alternatives, of the Draft EIR, several project components or alternatives were requested for consideration during the scoping process and eliminated from in-depth analysis. These ideas included establishment of a river-front park the length of the Napa River, establishment of municipal sewer and water services throughout the floor of Napa Valley, and different organizational schemes for the General Plan document.

The first idea was rejected as infeasible given concerns regarding property ownership patterns, potential loss of productive agricultural land, land costs, and potential impacts to sensitive resources due to unconstrained public access. Rather than a park, Draft EIR Alternatives B and C include a network of recreational trails, and the Preferred Plan includes a policy calling for increased points of public access to the Napa River for nature-based recreation and a non-motorized trail (alignment unspecified) connecting all of the communities of the Napa Valley. (See the Recreation and Open Space Element.) The second suggestion regarding substantial infrastructure expansion was rejected due to potential growth-inducing impacts and conflicts with the project objectives of protecting agricultural land, focusing growth in urbanized areas, and protecting the County's rural character. The third suggestion was not really an alternative because it relates to organizational schemes of the document and does not offer ways to reduce or avoid environmental impacts.

In addition to these suggested alternatives, the General Plan Steering Committee discussed disposition of comments received during the scoping process, including suggestions regarding the alternatives to be considered.⁹

The NOP comments included a suggestion [Tom Gambel] that the EIR analyze (a) an alternative which eliminated the annual ceiling on housing growth and reduce minimum parcel sizes (now 160 acres) in areas designated Agricultural Watershed and Open Space; (b) an alternative which assumes Measure J sunsets in 2020 and minimum parcel sizes in agricultural areas are reduced to less than 40 acres; and (c) an alternative that eliminates or restricts recreational uses in agricultural areas and increases the minimum size for wineries. The first of these suggestions was deemed to be represented by Draft EIR Alternative E, the second was removed from further consideration because it would result in impacts greater than any of the other alternatives, and the third was deemed to be represented by Draft EIR Alternative D. Other comments suggested various other project features which could be considered alternatives or components of alternatives, and each was retained or rejected from further consideration as follows:

⁹ January 4, 2006 Memorandum to the Steering Committee for the meeting of January 11, 2006. available at the Department of Conservation, Development and Planning, 1195 Third Street in Napa, and www.napacountygeneralplan.com.)

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- An alternative which meets the County's housing needs without relying on the cities [City of Napa and City of St. Helena] is represented by Draft EIR Alternatives C and E. Relocating existing commercial/industrial uses from the City of Napa to County industrial areas [City of Napa] is something that could occur under Draft EIR Alternatives A or D.
- Allowing housing as well as jobs in commercial "nodes" such as Rutherford [City of Napa and City of St. Helena] is a component of Draft EIR Alternative C.
- An alternative which constrains job growth unless balanced by housing [City of St. Helena] was not included per se; however in improved jobs-housing balance would be achieved under Draft EIR Alternative C, which would therefore achieve the same resulting "balance" between jobs and housing as the suggested alternative. Also, Alternative D represents a future in which both job growth and housing growth are subject to restrictions and would be substantially less than under the No Project Alternative.
- Additional stream setbacks, an oak tree preservation ordinance, zoning to prohibit timber conversions, and erosion control measures for lands <5% slope [Green Party] are components that are evaluated as part of Draft EIR Alternative D. (See further discussion of Alternative D, below.)
- An "air train" with frequent stops where people can exit and rent alternative fuel vehicles [Green Party] was deemed to be infeasible given the costs involved, the absence of available right-of-way, and the residential and employment densities required to achieve reasonable ridership levels, but transit enhancements were analyzed as part of Draft EIR Alternative E.
- "Significant new workforce housing in lands currently zoned industrial" and "significant new job-generating businesses in the South County Industrial Areas" [NVEDC] are included in Draft EIR Alternative E.
- Expanded visitor-serving businesses and attractions at Lake Berryessa and expanded sustainable commercial nodes in Oakville, Rutherford, Pope Valley, Angwin, and Lake Berryessa [NVEDC] are included minimally in Draft EIR Alternative C and to a greater extent in Draft EIR Alternative E. (See the proposed Economic Development Element for policies addressing this issue.)
- A policy that promotes sustainable timber harvesting [NVEDC] was included in the Draft General Plan Update.
- A mix of uses for the Pacific Coast/Dillingham [Boca] site is included in Alternatives B, C, and E, including retail and other non-residential uses, although 'big box' retail per se is not included due to concerns expressed by the City of Napa, the fact that impacts with this use (traffic, unmet housing demand) would likely be greater than with other uses/alternatives, and because it would conflict with the project objectives related to the County's character and public input/political support.

Scoping comments also suggested re-grouping components of some alternatives, which was accomplished via the consolidation/modification of the NOP alternatives into the Draft EIR alternatives described above.

3.0 COMMENTS AND RESPONSES TO COMMENTS

Draft EIR Alternatives Constitute a “Reasonable Range”

Based on the process of scoping and refining possible alternatives, the way that the Draft EIR alternatives represent a range of possible outcomes to the planning process, and the modifications to the Draft EIR described in this response to comments, the County believes that it has identified a reasonable range of alternatives meeting the requirements of CEQA and published case law. Further explanation is presented below.

Public Input on the Range of Alternatives was Sought and Incorporated

First, the alternatives analyzed in the Draft EIR are a product of the public outreach described in the Draft EIR (Chapter 3.0 and 6.0), Scoping Report, and above. The NOP alternatives were developed in consultation with the citizen Steering Committee following a Steering Committee “charrette” and a series of seven public meetings held throughout the County to solicit input on the General Plan update. The NOP alternatives were then used as the basis of extensive public outreach during the scoping process, as described in the Scoping Report referenced above. (Also see the summary of outreach to Spanish-language speakers.)

Following receipt of public comments during the scoping process, the Draft EIR alternatives were devised by merging and re-organizing some of the concepts included in the NOP alternatives and by incorporating many of the suggestions provided in the comments. (See the discussion of the June 24, 2006, Steering Committee discussion, above.) The resulting Draft EIR alternatives were also reviewed by the Planning Commission and endorsed by the Board of Supervisors.

As a product of this lengthy public outreach process, it is not surprising that the range of Draft EIR alternatives engendered only a handful of public comments during the 120-day public comment period on the Draft EIR (i.e., a handful out of over 200 written comment letters and e-mails, and oral comments from speakers at five noticed public hearings). The vast majority of comments suggested specific changes to the draft General Plan Update that can be considered and adopted by County decision makers if desired without modification to the Draft EIR alternatives. Other public and agency comments focused on the analysis and conclusions of the Draft EIR without questioning the range of alternatives it considers.

The Alternatives Encompass a Wide Spectrum of Possible Planning Outcomes

As noted in Chapter 3.0, Project Description, of the Draft EIR, the Draft EIR Alternatives were specifically crafted by County staff, consultants, Steering Committee members, and decision-makers to represent a wide variety of possible outcomes to the planning process, facilitating evaluation of potential environmental impacts and broad public participation concurrent with development of the updated plan itself. A more conventional environmental analysis would have proceeded once a draft plan was prepared and would have analyzed that plan as a static project under CEQA, with several other alternatives considered at a lesser level of detail.

By proceeding with the environmental analysis concurrent with the planning effort, the Draft EIR was able to assess a greater number of planning concepts at an equal level of detail, grouping them into three main alternatives (Alternative A, B, and C), and to analyze a handful of additional concepts in the two alternatives analyzed at a lesser level of detail (Alternative D and E). This evaluation methodology was specifically intended to allow County decision makers the flexibility to adopt a plan (or an “alternative”) that does not exactly match any of the EIR alternatives, but falls within the range of ideas and impacts they represent. In other words, following completion and certification of the Final EIR and receipt of public comments, County decision makers may be able to adopt a project (i.e., a General Plan amendment) that does not precisely match one of the EIR alternatives, as long as that project is shown to fall within the spectrum of alternatives and impacts fully analyzed in the Draft and Final EIR.

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For example, County decision-makers could consider the suggestions of Save Rural Angwin (referenced at the start of this master response), even though their precise proposal is not specifically described in one of the Draft EIR alternatives. This is because their concept that a smaller area be designated as Angwin is clearly represented by Draft EIR Alternative B (Figure 3.0-5), and the idea of changing the land use designation in this area from "Urban Residential" to a designation based on existing land uses is also represented by Draft EIR Alternatives B and C. Further, the impacts of a range of land use intensities (population/housing and traffic) are represented by the Draft EIR Alternatives, since they each assume various intensities of development. Incremental growth and development of affordable housing sites in Angwin is included in Alternatives A, B, D, and the No Project Alternative, and greater densities/development are included under Alternatives C (600 dwelling units) and Alternative E (1,000 dwelling units).

The flexibility offered to decision-makers by a range of alternatives capturing a wide variety of possible outcomes to the planning process reinforces the importance of Comments 99-10 and 99-64 (referenced at the start of this master response). As these comments suggest, this Final EIR describes a new "Preferred Plan" that matches the guiding vision and policies of the plan as they have been revised in response to public comments, explaining specific components that have been included and their relationship to the Draft EIR alternatives and to the impacts described in the Draft EIR.

Please see the explanation provided in Section 2.0 of this document for a full description of this Preferred Plan, a summary of its impacts and mitigation measures, and an explanation as to how those impacts fall within the range provided by the Draft EIR alternatives. The Preferred Plan is also fully detailed as the Revised Draft General Plan Update, a separate document which is available at the County offices at 1195 Third Street and www.napacountygeneralplan.com. This revised version of the plan will be considered for adoption by the Napa County Board of Supervisors in early 2008.

The Alternatives Represent a Range of Potential Impacts

As discussed below and as demonstrated further by the revised summary table (see **Table 1.0-1**) included in this Final EIR, the range of five alternatives in the Draft EIR includes alternatives which avoid or reduce the impacts associated with other alternatives. The range of alternatives therefore reduces impacts associated with possible outcomes of the planning process as they were defined at the Draft EIR stage, and also include alternatives which reduce impacts associated with the Preferred Plan.

By including different possible project components and representing different possible outcomes of the planning process, the Draft EIR alternatives also represent a range of potential environmental impacts. Specifically, each of the alternatives analyzed in the Draft EIR were shown to have the potential for different amounts of population/housing, different amounts of job growth, different amounts of traffic, etc. (See table provided below for some examples.) Also, contrary to one of the comments cited at the start of this master response, Alternatives A and D would result in growth in conformance with the 1% per year building permit allocation system referred to as "Measure A."¹⁰

¹⁰ The building permit allocation system currently allows the County to issue up to 114 new residential building permits per year, not counting affordable units or second units. Thus between 2005 and 2030, the County could approve 2,850 market rate residences and still comply with the limits set by Measure A. Alternatives A and D are clearly below this threshold, and even Alternative B could comply with Measure A if units that exceed the 2,850 threshold qualify as affordable and/or second units.

3.0 COMMENTS AND RESPONSES TO COMMENTS

Given the range of development intensities (housing and jobs) associated with the alternatives, the Draft EIR concludes that these alternatives would result in different traffic congestion impacts at different locations, different air pollutant emissions, different traffic noise levels, etc.

**TABLE 3.0-1
SOME CHARACTERISTICS ASSOCIATED WITH DEIR ALTERNATIVES
DEMONSTRATING THE RANGE OF IMPACTS ASSESSED IN THE DEIR**

Alternative	Population & Housing Increases (people & units)	State-Designated Farmland at Risk (acres)	PM Peak Hour Vehicle Miles Traveled (VMT)	Avg. Winter Day PM10 Emissions (tons/day)	# Analysis Locations w/Substantial Traffic Noise Changes
Alternative A	5,013 & 2,235	6,291	480,821	0.92	27
Alternative B	9,029 & 3,885	5,996	485,363–505,144	1.05	28-29
Alternative C	18,063 & 7,635	6,838	491,301-525,061	1.34	27-30
Alternative D	4,390 & 1,951	< Alt A	< Alt A	0.90	< Alt A
Alternative E	15,075 & 6,535	> Alt C	513,728	1.25	32

Source: February 2007 DEIR

Note: Impacts of the No Project Alternative would be similar to Alternative A. Impacts of the Preferred Plan are described in Section 2.0.

With regard to vineyard development, the alternatives all assumed that 10,000 to 12,500 additional acres of vineyards would be planted in the County on suitable lands of less than 30% slope by 2030, except for Alternative E, which assumed 15,000 acres on slopes of up to 35%, and Alternative D, which assumed "fewer than 10,000 acres" (p. 6.0-9), a statement which has been clarified to mean approximately 7,500 acres later in this master response. As explained in Draft EIR Section 4.11, Hydrology and Water Quality, the amount of vineyard development was not assumed to vary greatly between alternatives because physical and economic requirements associated with new vineyards were assumed to be generally the same regardless of the outcome of the general plan process. Nonetheless, the location of vineyard development would have different impacts on natural resources such as flora, fauna, fisheries, habitats, and water resources. For this reason, four different hypothetical vineyard development scenarios were developed and analyzed, each resulting in different impacts as illustrated in relevant sections of Draft EIR Chapter 4, Environmental Setting, Impacts and Mitigation Measures.

In all, the Draft EIR considered potential impacts of the General Plan Update in 73 different impact categories related to 14 different environmental topics. In most cases, the various Draft EIR alternatives were found to represent a range of impacts, with Alternative C or E being the most severe and Alternative D the least, because the alternatives assumed different land use changes and different intensities of development. Where impacts were found to be the same or similar for two or more alternatives, it was due to the nature of the impact itself or uncertainty about the characteristics (specifically the location) of growth and development under the alternatives. Nonetheless, a range of potential environmental impacts was described. (See DEIR Tables 4.5-3 and -4 and 4.11-4 for example.)

With regard to one commenter's concern regarding the alleged uniformity of biological impacts associated with each alternative, please consult Draft EIR Tables 4.5-3, 4.5-4, and 4.5-5 for more information on the differences between the alternatives. Also, it should be pointed out that only one significant and unavoidable biological resource impact was identified associated with the loss of sensitive biotic communities (Draft EIR Impact 4.5.2). All other biological impacts would be mitigable and the Draft EIR identifies mitigation measures (MM 4.5.1b and c, MM 4.5.2a

through c, MM 4.5.3a and b, MM 4.6.5a through c, and MM 4.11.4) that would apply to all the alternatives. The Draft EIR conservatively identified the impact related to sensitive biotic communities as significant and unavoidable despite the applicable mitigation because of uncertainty about the location of all sensitive biotic communities, uncertainty about the location of future vineyard development that will ensue, and uncertainty as to whether the habitat replacement and preservation measures proposed would be able to reduce project-specific impacts to a level of less than significant in all areas of the County. Please see below for further discussion of an alternative which would avoid this significant impact.

Some Draft EIR Alternatives Avoid Significant Impacts Associated with Others

In addition to describing a range of impacts associated with the Draft EIR alternatives and their related vineyard development scenarios, the Draft EIR contains conclusions regarding the severity of the impacts as required by CEQA. Thus, in some cases impacts are found to be less than significant, in others they are found to be significant and mitigable, and in others they are found to be significant and unmitigable. The differences between the alternatives is made more explicit in the revised summary table included in this Final EIR (see **Table 1.0-1**), and have been enhanced by several adjustments to Alternative D intended to improve that alternative's environmental superiority as suggested by comments cited at the start of this master response.

Specifically, the following changes have been made to the description of Alternative D in Section 6.4, beginning on p. 6.0-5 in order to clarify and enhance features of the alternative and address significant impacts related to agriculturally-zoned land, sensitive biotic communities and oak woodlands, and groundwater. With these additions and changes, Alternative D would remain the environmentally superior alternative and would address the comment requesting an alternative that removes agriculturally zoned land from the "bubbles." (Additions are underlined, and deletions are crossed out.)¹¹

6.4 ALTERNATIVE D – RESOURCE PRESERVATION ALTERNATIVE

DESCRIPTION OF ALTERNATIVE

The Resource Preservation Alternative would be the most restrictive of the five principal alternatives considered in this Draft EIR. The area currently designated as Agricultural Watershed Open Space (AWOS) would be split into two zones – one primarily devoted to agriculture, and one primarily devoted to open space. One dwelling unit per parcel would still be allowed, but minimum parcel sizes could increase, so that little new development would occur and major infrastructure improvements would not be feasible. Recreational uses would be restricted in agricultural areas. There would be no changes to the amount of land ~~designated~~ currently available for industrial use. The existing policy provisions of the 1983 General Plan would largely remain, except additional policies would be developed to limit groundwater use, achieve greater forest protection, riparian habitat preservation, and water quality improvements than envisioned under the current plan (see description below).

¹¹ Note that Figure 6.0-1 Alternative D has also been modified as indicated in the new version included (see Section 4.0 of this document).

3.0 COMMENTS AND RESPONSES TO COMMENTS

Land Use Plan and Development Potential

As shown in **Figure 6.0-1**, current rural designated areas adjacent to Berryessa Estates, City of Calistoga and the City of Napa would be reduced or eliminated, while urban designated areas in Pope Creek would be re-designated rural residential. All other urban and rural residential areas would also be reduced in size to eliminate agriculturally zoned land from these areas (i.e., from the "bubbles"). Hess Vineyard would remain in vineyard use, but would be re-designated as Agricultural Open Space. Urban designations in the unincorporated community of Angwin would be modified to include a mix of urban residential and institutional uses; ~~but~~ no expansion of the so-called "urban bubble" would occur. There would be no other changes to the land use map. Other agricultural areas would have no additional housing sites as increasing the minimum parcel size would limit further subdivisions. The AWOS designation would be split into two districts: AOS and WOS, with the latter including areas where policies would be developed to achieve greater forest protection, riparian habitat preservation, and water quality improvements than envisioned under the current General Plan. Such policies could result in zoning to prohibit timber conversions in Watershed Open Space areas, inclusion of expanded riparian buffers in the Conservation Regulation, along with adoption of an oak woodland preservation ordinance, and erosion control plan requirements for vineyards on less than 5% slope.

There would be a continued reliance on cities to meet housing needs requirements. This Alternative would result in an increase of 1,951 units and an increase of 9,713 new jobs between year 2005 and 2030 (see Table VI in the Industrial Land Use Study – Napa County General Plan Update in **Appendix B** for further details on assumed development under this alternative). A Measure J vote would be required to split the AWOS district into two districts.

Vineyard and Winery Processing/Operations

The minimum parcel size for wineries would increase from 10 to 40 acres. Vineyards would be required to place a greater emphasis on habitat preservation and be specifically designed to protect sensitive biotic communities and oak woodlands. Groundwater restrictions similar to those in place in the Milliken-Sarco-Tulucay (MST) basin would be established in other areas, including Pope Valley, Chiles Valley, Capell Valley, and Carneros Valley. Restrictions would effectively require "no net increase" in groundwater use associated with discretionary projects requiring County approval in these areas. With these new restrictions, Alternative D could result in 7,500 acres of new vineyards by 2030 (i.e., less than Alternatives A, B, and C).

The following additional changes have been made to the analysis of agricultural impacts associated with Alternative D beginning on p. 6.0-10. (Additions are underlined, and deletions are crossed out.)

Conflict with Agricultural Zoning and Williamson Act Contracts

As identified under Impact 4.1.4, virtually all of the so called "urban bubbles" or urbanized areas on the existing General Plan Land Use Map that are designated either "Urban Residential" or "Rural Residential" contain some land that is zoned for agricultural use. Since Alternative D would rectify this situation by shrinking the "bubbles" to eliminate all agriculturally zoned land, the General Plan Update (under all alternatives) would perpetuate this arrangement in most locations, it would ~~not~~ preclude rezoning and

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redevelopment of land that is zoned agricultural. ~~nificant environmental impact because it would occur only in those areas designated for non-agricultural uses under the current Napa County General Plan.~~ This impact was identified as significant and unavoidable for Alternatives A, B and C and would be avoided by ~~also be significant and unavoidable~~ for Alternative D (~~even~~ with implementation of mitigation measures MM 4.1.1a and b).

The following additional changes have been made to the analysis of biological impacts associated with Alternative D beginning on p. 6.0-12. (Additions are underlined, and deletions are crossed out.)

Loss of Sensitive Biotic Communities

As described under Impact 4.5.2, **Tables 4.5-5** and **4.5-6** identify potential conversion of land cover types that may contain sensitive biotic communities by Alternatives A, B and C and vineyard development scenario 1 through 4. Numerous sensitive natural communities are known from Napa County. There are likely to be additional areas with these unique communities since existing mapping represents only the known occurrences of these communities. Future land use activities including additional land development and vineyard conversion could affect both mapped and unmapped sites and oak woodlands. Site-specific habitat analysis may be necessary to determine the presence of additional sensitive biotic communities on undeveloped lands proposed for development. Of specific concern are vineyard development scenarios that could result in the conversion of large percentages of the total County acreage of several sensitive biotic communities (e.g., Tanbark Oak Alliance, Ponderosa Pine Alliance, Douglas Fir - Ponderosa Pine Alliance and Oregon White Oak Alliance) (see **Table 4.5-6**). This impact was identified as significant and unavoidable for Alternatives A, B and C.

Alternative D would result in the least impact (of the alternatives under consideration) given the reduced non-agricultural development potential associated with its land use map and that the AWOS designation would be split into two districts: AOS and WOS, with the latter including areas where policies would be developed to achieve greater habitat protection and preservation, and water quality improvements than envisioned under the current General Plan. (As noted above, vineyard development under this alternative would be less than all the other Alternatives, and less than scenarios 1-4.) ~~However, this alternative's~~ Alternative D's impact would still be considered **significant and unavoidable** ~~mitigable even~~ due to its inclusion of policies that would lead to zoning prohibiting timber conversions in Watershed Open Space areas and adoption of an oak woodland preservation ordinance, in addition to ~~with~~ the implementation of mitigation measures MM 4.5.1b and c, MM 4.5.2a through c, MM 4.6.5a through c, MM 4.11.4 and implementation of the Napa County Conservation Regulations that would reduce loss of sensitive biotic communities.

The following additional changes have been made to the analysis of groundwater use associated with Alternative D beginning on p. 6.0-2.5. (Additions are underlined, and deletions are crossed out.)

Groundwater Level and Decline and Overdraft

As identified under Impact 4.11.5, urban, rural and agricultural development and land use activities would increase groundwater demands and have impacts on groundwater storage. Modeling results show most evaluation areas with decreases in groundwater

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discharge to the channel network (baseflow), while in the Berryessa and Suisun areas, baseflow increased (see Appendix H). ~~while~~ Also, Appendix J identifies that cumulative water demands for the years 2020 and 2050 in the Napa Valley would exceed current water supplies (including groundwater resources). This impact was identified as significant and unavoidable for Alternatives A, B and C.

Alternative D would result in the least impact (of the alternatives under consideration) given the reduced non-agricultural development potential associated with its land use map and that the AWOS designation would be split into two districts: AOS and WOS, with the latter including areas where policies would be developed to achieve greater forest protection, riparian habitat preservation, and water quality improvements than envisioned under the current General Plan. Alternative D would also extend groundwater restrictions that currently apply in the MST area to other areas where groundwater deficiencies are thought to exist. Restrictions would effectively require "no net increase" in groundwater use associated with discretionary projects requiring County approval in these areas. As a result, ~~However,~~ this alternative's impact would still be considered significant and mitigable ~~unavoidable~~ (even with implementation of mitigation measures MM 4.11.4 and MM 4.11.5a through e).

As noted above, the revised summary table (see Table 1.0-1) provides the most accessible summation of significance conclusions associated with the Draft EIR Alternatives. The table indicates that with the changes to Alternative D included above there are 13 significant impacts that are mitigated or avoided under some alternatives but not others:

- Loss of County Designated Agricultural Lands (Impact 4.1.2) – Alternatives A, B, and D
- Conflict with Agricultural Zoning (Impact 4.1.4) – Alternative D
- Division of Established Community and Land Use Conflicts (Impact 4.2.1) – Alternatives A and D
- Conflicts with Relevant Land Use Plans, Policies or Regulations (Impact 4.2.2) – Alternatives A and D
- Jobs Housing Balance (Impact 4.3.2) – Alternatives B and C
- Loss of Sensitive Biotic Communities and Oak Woodlands (Impact 4.5.2) – Alternative D
- New Development Exposure to Groundborne Vibrations (Impact 4.7.2) – Alternatives A and D
- Roadway Improvement Impacts to Noise Sensitive Uses (Impact 4.7.4) – Alternatives A and D
- Exposure to Air Toxic Contaminants (Impact 4.8.5) – Alternatives A and D
- Airport Hazards (Impact 4.9.3) – Alternatives A and D
- Interference with an Adopted Emergency Response or Evacuation Plan (Impact 4.9.4) – Alternatives A and D
- Groundwater Decline (Impact 4.11.5) – Alternative D
- Law Enforcement and Services and Standards (Impact 4.13.2.1) – Alternatives A and D

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The table also notes cases where the impact conclusions are the same among the alternatives and where certain alternatives rank better in lessening the identified impact. As specifically noted on Draft EIR p. 6.0-67, Alternative D (Resource Preservation Alternative) provides the greatest avoidance of environmental impacts of the General Plan Update, although even with the text changes described above, there are 12 impacts identified as significant and unmitigable under all alternatives including Alternative D in the Draft EIR, as listed below.

- 4.3.1 Population, Housing or Job Growth Greater than Regional Projections or 1% Per Year
- 4.4.1 Substantial Traffic
- 4.7.3 Traffic Noise
- 4.8.1 Inconsistency with the Regional Clean Air Plan
- 4.8.2 Particulate Emissions
- 4.8.7 Greenhouse Gas Emissions
- 4.10.1 Exposure to Ground Shaking
- 4.10.2 Exposure to Ground Ruptures
- 4.10.4 Exposure to Slope Failures
- 4.10.5 Exposure to Subsidence
- 4.12.2 Alteration or Demolition of Historic Resources
- 4.13.3 Additional Public Services/Facilities: Irrigation & Potable Water

These 12 significant and unmitigable impacts would occur regardless of the General Plan alternative selected for implementation by the County because they relate to regional growth (i.e., growth within the cities and other counties) or they represent conservative conclusions that would apply if there is any growth within the unincorporated County. (See the separate discussion of no growth as an alternative below.) For example, Draft EIR Table 4.4-3 identifies similar traffic impacts for year 2030 conditions under ABAG 2003 growth projections as compared to Draft EIR Alternatives A through C (see Tables 4.4-13 and 4.4-14) and attributes the majority of p.m. peak hour traffic to trips within the cities of the county (see Draft EIR Table 4.4-10). This traffic and anticipated growth irrelevant of the proposed General Plan Update is also expected to result in significant air quality and noise impacts, as identified in the Draft EIR. [This paragraph addresses Impacts 4.4.1, 4.7.3, and 4.8.2 from the above list.]

Similarly, the impacts related to greenhouse gas emissions, exposure to geologic hazards (ground shaking, ruptures, slope failures, and subsidence), additional public services (potable water), and alteration or demolition of historic resources would be considered significant in the case of any plan proposing any growth within the County.¹²

¹² This is similar to the case in *Sequoyah Hills Homeowners Association v. City of Oakland* (23 Cal.App.4th 704 No. A059689 Nov. 30, 1993), where the court held that an EIR for a residential development project was not required to additional "decreased density alternatives" in a circumstance when a visual resource impact was significant and unavoidable in *any* development circumstance. The court noted that conducting such an analysis of alternatives would have "been an exercise in futility."

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More specifically, the calculation of greenhouse gas emissions is a new area of CEQA and CEQA litigation, and it would be imprudent for any local jurisdiction seeking to adopt a plan that would permit any growth in vehicle miles traveled (VMT) or energy use in the current environment not to acknowledge (and quantify) greenhouse gas emissions, address emissions through mitigation (reductions and off-sets), and still find the impact significant and unavoidable. Please see the master response related to this issue for further discussion. [This paragraph addresses Impact 4.8.7 from the above list.]

Similarly, with the known seismic hazards associated with living in California, any local jurisdiction seeking to adopt a plan that would permit any growth in population and employment would be foolish not to acknowledge that new people will be exposed to these existing hazards. While the hazards may be minimized by measures such as avoiding high hazard areas, applying appropriate building code standards, etc., and some jurisdictions might find these measures sufficient to reduce the impact to a level of less than significant, Napa County has exercised an abundance of caution and determined that these impacts would remain significant. [This paragraph addresses impacts 4.10.1, 4.10.2, 4.10.4, and 4.10.5 from the above list.]

For potable water, the Draft EIR identifies that the unincorporated area of the County already experiences water supply shortages during single-dry and multiple-dry years (see Draft EIR p. 4.13-15). While the Draft EIR contains several mitigation measures to address water supply issues with the unincorporated area of the County for all alternatives (MM 4.13.3.1a and b), in the circumstances described, the County has conservatively concluded that this impact would remain significant and unavoidable under any alternative scenario. [This paragraph addresses Impact 4.13.3 from the above list.]

Concerning alteration or demolition of historic resources, the Draft EIR acknowledges that there are likely to be historic architectural features in Napa County that have not been identified or appropriately evaluated (p. 4.12-19). This is because there is no comprehensive and up-to-date inventory of historic resources. As a result, the Draft EIR conservatively concludes that historic resources could be affected by future growth and development, and this conclusion would hold for any General Plan alternative. [This paragraph addresses Impact 4.12.2 from the above list.]

Additional Alternatives Suggested by Commenters

The comment letters cited at the beginning of this master response suggested a number of other alternatives or concepts that have been included in the Final EIR via text changes to Chapter 6.0, Alternatives. Specifically, the idea of a "No Growth" Alternative, elimination of General Plan designated "bubbles", and the idea of an alternative consistent with ABAG growth projections have been included under a new sub-heading at the end of the section titled "Alternatives Considered but Not Selected for Analysis" beginning on p. 6.0-2. These text changes are included below and repeated in Section 4.0 of this document.

The following new sub-section has been added on p. 6.0-4 at the end of Section 6.2:

Other Alternatives Suggested as Comments on the Draft EIR:

Several other alternatives were suggested in comments on the Draft EIR and were not selected for in-depth analysis for the reasons indicated below.

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A “No Growth” Alternative

A general plan update alternative that prevents any growth from happening in unincorporated Napa County was rejected as infeasible because of the practical and legal difficulties associated with such an alternative. If the County adopted a completely restrictive General Plan or simply stopped issuing building permits as a way to prevent new housing development and new job growth, it would likely be accused of inverse condemnation, since it would essentially be denying private property owners reasonable legal use of their property. The Fifth Amendment of the US Constitution prohibits the “taking” of private property for public purposes without just compensation. While the land use restrictions of a general plan or zoning ordinance do not ordinarily rise to a “taking”, they would do so if they deprived the property owner of all economic viable use of their property. Also, such a general plan would not comply with state law, which requires that a general plan (land use element) designate the “general location” of “land for housing, business, industry, open space, etc.” (CGC Sec. 65302) and requires that general plans (housing elements) provide policies and programs to help accommodate the housing needs of Californians of all economic levels (CGC Sec. 65580 et seq.). Thus, inclusion and potential adoption of such an alternative would directly affect the County's ability to update its Housing Element consistent with state Law. For these reasons, the “no growth” alternative is considered infeasible.

An Alternative Consistent with ABAG Growth Projections

Several comment letters on the Draft EIR requested that the County provide an additional alternative in the Draft EIR that is consistent with ABAG growth projections. As explained on DEIR p. 4.3-10 & 11 and Appendix B, the County engaged Keyser Marston Associates (KMA) to review population and employment projections developed by ABAG in light of available land, demand, and absorption rates in Napa County. This review determined that ABAG's Projections 2003 and 2005 were unrealistically low, and could not serve as a reasonable basis for an environmental analysis since – even if the County makes no substantive policy changes -- it will likely add more housing and more jobs than ABAG anticipates. Thus, the population, housing, and employment projections provided for in Alternative A represent the County's adjustment of ABAG growth projections consistent with a finer-grained understanding of local conditions than ABAG exercised, and represent what the EIR authors believe is more likely to occur if the County makes no substantive policy changes to its existing general plan.¹³

An alternative that is completely consistent with ABAG Projections was rejected as infeasible because – similar to the “no growth” option described above – it would face practical and legal difficulties. In effect, the County would have to place stricter limits on residential building permits than currently exist and would have to further constrain non-residential development to contain job growth (i.e. impose limits beyond those imposed by a constrained supply of appropriately zoned land). With these actions, it is unclear how the County could meet its legal obligations under State law or avoid substantial exposure to property owner initiated litigation. The County would also not meet its

¹³ Just as one example, ABAG Projections 2005 suggests that unincorporated Napa County will add 890 new dwelling units between 2005 and 2030. This works out to be about 35 houses per year, or about 80 less than allowed under the County's annual building permit limit, and about 55 less than have been issued annually each year for the past 5-10 years. Alternative A by comparison would add about 90 new dwellings per year, which is consistent with the number issued annually in recent years.

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objectives related to accommodating a reasonable amount of growth and addressing the needs for housing. (See also discussion above under "No Growth Alternative.")¹⁴

An Alternative Which Eliminates All of the "Bubbles"

Several comment letters on the Draft EIR requested that the County provide an additional alternative in the Draft EIR that would eliminate all of the areas on the Land Use Map that are designated Urban Residential or Rural Residential, areas that are informally referred to as the "bubbles" because of their shape on the map. Under this alternative, all of the County would be designated for agricultural use except for the industrial areas and public institutional areas south of the City of Napa. Consistent with longstanding general plan policies, a limited number of commercially zoned sites in the County (totaling less than 200 acres) could still be used for commercial purposes, but no land would be available for multifamily housing, private institutions, or many other uses. One primary residence would be permitted on every legal parcel, and minimum parcel sizes would generally be set as 40 or 160 acres. This alternative was eliminated from in-depth analysis because it would fail to address important project objectives. Specifically, elimination of all of the bubbles would result in a plan that is not legally adequate, because it would not comply with 65302(a) of the California Government Code, which requires plans to identify areas for housing, business, industry, and other uses. Elimination of the bubbles would also make it impossible for the County to meet its State mandated housing requirements, and to address issues of concern to the community, such as the availability of moderately priced housing because large lot sizes would be locked-in and multifamily housing projects would not be allowed. Elimination of the bubbles would also mean that the plan would not provide for a reasonable amount of growth as suggested in the project objectives and could ultimately result in development pressures being focused on agricultural areas of the County. It is conceivable, for example, that if no land was available for multifamily housing and the County failed to meet State housing requirements, that a court could require re-designation of agricultural land or set aside Measure J, the County's agricultural preservation initiative.

3.4.3 BIOLOGICAL RESOURCES MASTER RESPONSE

Several commenters expressed concerns regarding impacts to biological resources addressed in the Draft EIR and how the proposed General Plan Update would address these impacts. Comment letters of note are summarized below:

The Sierra Club (Comment Letter 121) suggests that the Draft EIR fails to provide any information or analysis on base flows for waterways or groundwater tables in the Napa Valley which are important to fisheries and riparian vegetation (the reader is referred to Master Response 3.4.1, Water Supply, regarding changes in surface water and groundwater flows). The Sierra Club also states that the Draft EIR fails to quantify and address impacts to biodiversity, as well as impacts associated with invasive species. They note that impacts associated with mansion development on biological resources were not addressed adequately, and that wildlife movement analysis was deficient as it did not take into account the analysis in the Napa County Baseline Data Report (BDR). The Sierra Club suggests that the conclusions of the Draft EIR are not consistent with the BDR.

¹⁴ Table 4.4-3 contains results of a traffic modeling exercise which utilizes the ABAG Projections 2003 for the unincorporated County rather than the more defensible projections included in the DEIR alternatives. As the table indicates, even if an alternative completely consistent with ABAG Projections were to be included, it would have many of the same impacts as Alternatives A, B and C.

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Earth Defense for the Environment Now (EDEN) (Comment Letter 148) identified that the biological resource impacts of both climate change and water supply importation to the County need to be addressed (the reader is referred to Master Response 3.4.4, Climate Change). They requested a Water Element be added to the General Plan Update to address the Napa River. EDEN identified that vineyards would have significant impacts on critical habitats. EDEN expressed concerns regarding the fragmentation of habitat.

The Napa Valley Chapter of the California Native Plant Society (CNPS) (Comment Letter 89 and 169) provides input on the content of setting information in the Draft EIR as well as identifies additional species that CNPS considers "special status."

The Draft EIR provides a detailed description of current habitat conditions of the County as well as information regarding the known or potential presence of plant and wildlife species defined as "special-status" (see Draft EIR pp. 4.5-11 through -15 and pp. 4.6-6 and -7) and sensitive biotic communities/biotic communities of limited distribution (see Draft EIR pp.s 4.5-8 through -11). The Draft EIR identifies the following significant impacts to biological resources and fisheries associated with implementation of the proposed General Plan Update from subsequent residential, non-residential, and vineyard development as well as direct and indirect impacts from recreation and infrastructure improvements. The reader is referred to **Table 1.0-1** in this document for a comparison of these impacts among the alternatives evaluated and the Preferred Plan.

Impact 4.5.1 – Disturbance or Loss of Special-Status Plant and Animal Species: This impact was identified as significant and mitigable for all of the alternatives evaluated through the implementation of mitigation measures MM 4.5.1a through c that provided for evaluation of impacts, development of measures to address impacts that could not be avoided, and development and implementation of a noxious weed ordinance to address invasive species (see Draft EIR pp. 4.5-56 through -63).

Impact 4.5.2 – Loss of Sensitive Biotic Communities: The Draft EIR identified that this impact was significant and unavoidable under all alternatives given the extent of overall loss of sensitive biotic community habitats from vineyard development and growth. Mitigation measures MM 4.5.1a through c, MM 4.5.2a through c, MM 4.6.5a through c, and MM 4.11.4 were identified to reduce the extent of this impact (though would not fully mitigate the impact) (see Draft EIR pp. 4.5-63 through -65).

Impact 4.5.3 – Loss of Wildlife Movement and Plant Dispersal Opportunities: This impact was identified as significant and mitigable for all of the alternatives evaluated through the implementation of mitigation measures MM 4.5.3a and b regarding the retention of movement corridors and restrictions on vineyard fencing (see Draft EIR pp. 4.5-65 through -67).

Impact 4.6.1 – Sedimentation Impacts to Fisheries: The Draft EIR identified that this impact was significant and mitigable for all of the alternatives evaluated through the implementation of mitigation measures MM 4.11.2a and b, MM 4.11.4, and MM 4.6.1a and b that provided for use of BMPs and monitoring, and winter BMP requirements on construction activities within 0.25 miles of drainages (see Draft EIR pp. 4.6-22 through -25).

Impact 4.6.2 – Other Water Quality Impacts to Fisheries: This impact was identified as significant and mitigable for all of the alternatives evaluated through the implementation of mitigation measures MM 4.6.1a, MM 4.11.2a, MM 4.11.3b, and MM 4.11.4 that would require the use of BMPs and monitoring (see Draft EIR pp. 4.6-25 through -27).

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Impact 4.6.3 – Hydrologic Alteration Impacts to Fisheries: The Draft EIR identified that this impact was significant and mitigable for all of the alternatives evaluated through the implementation of mitigation measures MM 4.11.3a and b, and MM 4.11.9 that provided for no increase in scour events along waterways as well as no new increases in flood impacts (Draft EIR pp. 4.6-28 through -29).

Impact 4.6.4 – Groundwater Interactions With Surface Waters: This impact was identified as significant and mitigable for all of the alternatives evaluated through the implementation of mitigation measures MM 4.11.5e and MM 4.11.4 requiring that no substantial reductions in groundwater discharge will occur from the operation of new well facilities (see Draft EIR pp. 4.6-29 through -30).

Impact 4.6.5 – Direct Impacts to Fishery Habitat: The Draft EIR identified that this impact was significant and mitigable for all of the alternatives evaluated through the implementation of mitigation measures MM 4.6.5a through c that identifies protection and restoration requirements for riparian habitat and stream bed conditions as well as construction restrictions within the channel during spawning activities (Draft EIR pp. 4.6-31 through -32).

Impact 4.6.6 – Interfere Substantially with Movement or Migratory Corridors: This impact was identified as significant and mitigable for all of the alternatives evaluated through the implementation of Mitigation Measure MM 4.6.6 that require BMPs and/or habitat restoration (in consultation with the California Department of Fish and Game, U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration National Marine Fisheries Service) to ensure no adverse impacts and allow for fish passage (see Draft EIR pp. 4.6-33 through -34).

The information below responds to the major points of the commenters listed above and further supports the analyses and conclusions of the Draft EIR. The reader is also referred to responses to the individual comments made by the commenters listed above.

Modification of Policy Provisions in the General Plan Update to Further Address Biological Resource Issues

Since release of the Draft EIR and the public draft of the General Plan Update and through General Plan Steering Committee input and discussion, a Preferred Plan (see Section 2.0 of this document) for the General Plan Update has been developed and the Conservation Element has been further revised to include the following additional policy provisions that further address biological resources in the County. This also includes the incorporation of policies and action items generally implementing mitigation measures identified in Draft EIR Section 4.5, Biological Resources (MM 4.5.1a through c, MM 4.5.2a through c and MM 4.5.3a and b) into the Conservation Element, effectively implementing a number of important conservation policies, which include the following:

- County will conserve and improve habitat for fish and wildlife in cooperation with other governmental agencies, private associations, and individuals in the County.
- Maintain and improve fisheries habitat through a variety of appropriate measures (use of BMPs, flow and channel maintenance and restoration for fish passage, support fishery habitat restoration and improvement efforts, mitigation of impacts to streambed conditions necessary for native fisheries health),

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- Public water development projects shall provide adequate release flow of water to fisheries.
- Require that all discretionary projects and water development projects avoid impacts to fisheries and wildlife habitat to the maximum extent feasible. Where avoidance is not feasible, effective mitigation measures shall be included in projects (e.g., measures for adequate flows and water quality, provision for replacement and/or enhance of habitat, use of buffers, and compliance with recovery plans for federally listed species).
- Offset possible losses of fishery and wildlife habitat due to development projects; developers shall be responsible for mitigation when avoidance of impacts is determined to be infeasible. Mitigation measures may include providing and permanently maintaining similar quality and quantity habitat within the County, enhancing existing habitat areas, or paying in-kind funds to an approved wildlife habitat improvement and acquisition fund. Replacement habitat may occur either on-site or at approved off-site locations, but preference shall be given to on-site replacement.
- Establish and update management plans protecting and enhancing the County's biodiversity and identify threats to biological resources within appropriate evaluations areas, and use those plans to create programs to protect and enhance biological resources and to inform mitigation measures resulting from development projects.
- Require a biological resources evaluation for discretionary projects in areas identified to contain or possibly contain special-status species based upon data provided in the Baseline Data Report (BDR), California Natural Diversity Database (CNDDDB), or other technical materials. This evaluation shall be conducted prior to the approval of any earthmoving activities.
- Preserve and protect native grasslands, serpentine grasslands, mixed serpentine chaparral, and sensitive biotic communities and habitats of limited distribution through a variety of measures, including:
 - Prevent removal or disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat to special-status animal species.
 - In other areas, avoid disturbances to or removal of sensitive natural plant communities and mitigate potentially significant impacts where avoidance is infeasible.
 - Promote protection from overgrazing and other destructive activities.
 - Encourage scientific study and require monitoring and active management where biotic communities and habitats of limited distribution or sensitive natural plant communities are threatened by the spread of invasive non-native species.
 - Require no net loss of sensitive biotic communities and habitats of limited distribution through avoidance, restoration or replacement where feasible. Where avoidance, restoration or replacement is not feasible, preserve like habitat at a 2:1 ratio or greater within Napa County to avoid significant cumulative loss of valuable habitats.
- The following will be considered to reduce impacts on habitat conservation and connectivity:

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- In sensitive domestic water supply drainages where new development is required to retain between 40% and 60% of the existing vegetation on site, the vegetation selected for retention should be in areas designed to maximize habitat value and connectivity.
 - Outside of sensitive domestic water supply drainages, streamlined permitting procedures should be instituted for new vineyard projects that voluntarily retain valuable habitat and connectivity, including generous setbacks from streams and buffers around ecologically sensitive areas.
 - Preservation of habitat and connectivity of adequate size, quality and configuration to support special-status species within the project area. The size of habitat and connectivity to be preserved shall be determined based on the specific needs of the species.
 - Require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the species needs occupying the habitat.
 - Require new vineyard development to be designed to minimize the reduction of wildlife movement to the maximum extent feasible. The County shall require the removal or reconfiguration of existing wildlife exclusion fencing to reduce existing significant impacts to wildlife movement, particularly in riparian areas, where a nexus exists between the proposed project and the existing fencing.
 - Disseminate information about impacts that fencing has on wildlife movement in wild land area of the County and encourage property owners to use permeable fencing.
 - Develop a program to improve and continually update its database of biological information, including identifying threats to wildlife habitat and barriers to wildlife movement.
 - Support public acquisition, conservation easements, in-lieu fees where on-site mitigation is infeasible, and/or other measures to ensure long-term protection of wildlife movement areas.
- Encourage the preservation of critical habitat areas and habitat connectivity through the use of conservation easements or other methods as well as through continued implementation of the Napa County Conservation Regulations associated with vegetation retention and setbacks from waterways
 - Monitor biodiversity and habitat connectivity throughout the County and apply appropriate adaptive management practices as necessary to achieve applicable Natural Resources Goals. Changing conditions may include external forces such as changing state or federal requirements, or changes in species diversity, distribution, etc.
 - Initiate and support efforts relating to the identification, quantification, and monitoring of species biodiversity and habitat connectivity throughout Napa County.
 - Encourage the protection and enhancement of natural habitats which provide ecological and other scientific purposes.

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- Work with local resource and land management agencies to develop a comprehensive approach to controlling the spread of non-native invasive species and reducing their extent on both public and private land, including developing an invasive weed ordinance. The Invasive Weed Ordinance shall include regulatory standards for construction activities that occur adjacent to natural areas, including riparian and/or intermittent streams or watercourses, to inhibit the establishment of noxious weeds through accidental seed import
- Maintain and improve oak woodland habitat to provide for slope stabilization, soil protection, species diversity, and wildlife habitat through the following measures:
 - Preserve, to the maximum extent feasible, oak trees and other significant vegetation that occur near the heads of drainages or depressions to maintain diversity of vegetation type and wildlife habitat as part of agricultural projects.
 - Comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain to the maximum extent feasible existing oak woodland and chaparral communities and other significant vegetation as part of residential, commercial, and industrial approvals.
 - Provide replacement or preservation of lost oak woodland and native vegetation at a 2:1 ratio when retention of existing vegetation is found to be infeasible. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible.
 - Support hardwood cutting criteria that require retention of adequate stands of oak trees sufficient for wildlife, slope stabilization, soil protection, and soil production be left standing.
 - Maintain to the maximum extent feasible a mixture of oak species which is needed to ensure acorn production. Black, canyon, live, and brewer oaks as well as blue, white, scrub, and live oaks are common associations.
 - Encourage and support the County Agricultural Commission's enforcement of state and federal regulations concerning Sudden Oak Death and similar future threats to woodlands.
- Consistent with longstanding practice in Napa County, natural vegetation retention areas along perennial and intermittent streams shall vary in width with steepness of the terrain, the nature of the undercover, and type of soil. The design and management of natural vegetation areas shall consider habitat and water quality needs, including the needs of native fish and wildlife and flood protection where appropriate, site-specific setbacks shall be established in coordination with Regional Water Quality Control Boards, California Department of Fish and Game, U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration National Marine Fisheries Service and other coordinating resource agencies that identifies essential stream and stream reaches necessary for the health of populations of native fisheries and other sensitive aquatic organisms within the County's watersheds.
- Where avoidance of impacts to riparian habitat is infeasible along stream reaches, appropriate measures will be undertaken to ensure that protection, restoration and enhancement activities will occur within these identified stream reaches that support or could support native fisheries and other sensitive aquatic organisms to ensure a no net loss of aquatic habitat functions and values within the county's watersheds.

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- Enforce compliance and continued implementation of the intermittent and perennial stream setback requirements set forth in existing stream setback regulations, provide education and information regarding the importance of stream setbacks and the active management and enhancement/restoration of native vegetation within setbacks, and develop incentives to encourage greater stream setbacks where appropriate.
- To offset possible additional losses of riparian woodland due to development projects and conversions, developers shall provide and maintain similar quality and quantity of replacement habitat or in-kind funds to an approved wildlife habitat improvement and acquisition fund in Napa County. While on-site replacement wherever possible, is preferred, replacement habitat may be either on-site or off-site as approved by the County.
- The County shall coordinate its efforts with other agencies and districts such as the Resource Conservation District, and share a leading role in developing and providing outreach and education related to stream setbacks and other best management practices that protect and enhance the County's natural resources
- Maintain and improve marshland habitat in the southern part of the county through a variety of appropriate measures, including:
 - Utilize reclaimed wastewater of salinity control and management of marshlands, meadows, and salt ponds.
 - Establish County Policy for promoting wildlife habitat use within marshland areas such as Coon Island, Fly Bay, Devil's Slough, North Slough, the area between Napa Slough and South Slough, Fagan Slough Peninsula, (Cargill) Napa Plant Restoration Site, Bull Island, all of the berm areas between the top of the levee and center of the slough, and other nearby marshland and meadowlands.
 - Encourage environmental study, viewing platform, and wildlife preserve at the (Cargill) Napa Plant Restoration Site, Fagan Slough Area. Work with the California Department of Fish and Game to implement this policy.
 - Restrict the location or construction of structures on levees by large lot zoning because of environmental health problems, potential flood hazard, and impacts to wildlife habitat.
- Monitor rise in sea level and the resulting migration of marshlands and wetlands using adaptive management strategies to modify County practices when warranted.
- Maintain and improve slough and tidal mudflats habitat with appropriate measures, including the following:
 - Filling, dredging, draining, and polluting of mudflats and sloughs should be restricted to provide an adequate supply of oxygen, retain habitat, and maintain food organism production to conserve fish and wildlife and reduce pollution.
 - Utilize reclaimed wastewater for salinity control of mudflats and sloughs where needed.
 - Evaluate proposed marinas and harbors with regard to alternative sites with first priority for wildlife habitat and impact on scarce landforms such as marshlands.

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- Dredging for marina construction and maintenance requires a heavy public subsidy while serving a small portion of the total citizenry. Consideration should be given to having construction and maintenance dredging done by private enterprise rather than public agencies.
- Prevent filling of existing river areas, berm areas, salt ponds, wetlands, and marsh areas because these areas are important for public health and safety as their water surfaces lower the air temperatures, they serve as irreplaceable fish and wildlife habitat, they are subject to amplified earthquake movement and subsoil liquefaction, and they support oxygen-producing plants.
- The County shall amend its Local Procedures for Implementing CEQA to require gravel removal projects to result in no net adverse effects to stream temperature, bed attributes, or habitat necessary for native fisheries health. This may include restoration and improvement of impacted habitat areas (e.g., gravel areas and pools woody debris areas).
- The County shall adopt an ordinance that prohibits construction activities within the channel of any waterway identified to contain existing or potential spawning habitat for special-status fish species during limited time periods of spawning activities.
- Amend the Conservation Regulations to offer incentives such as a streamlined review process for new vineyard development and other projects that incorporate environmentally sustainable practices that avoid or mitigate significant environmental impacts.
- The County shall maintain and update the Biological Resources and Fisheries chapters of the BDR as necessary to provide the most current data and mapping. Updates shall be provided online and made available for review at the Conservation, Development and Planning Department.
- The County shall adopt protocols to be followed including a methodology for analyzing the need for buffers and establish setbacks where discretionary projects are proposed on parcels that may contain sensitive biotic communities or biotic communities/habitats of limited distribution.
- The County shall adopt a voluntary Oak Woodland Management Plan to identify and mitigate significant direct and indirect impacts to oak woodlands.

Biodiversity and the General Plan Update

Some commenters suggested that biodiversity is not addressed, quantified, or analyzed in the Draft EIR. The USGS National Biological Survey defines biodiversity as: "Number and variety of living organisms; includes genetic diversity, species diversity, and ecological diversity." The Draft EIR describes and cites information on the biological resources in the County and the conditions that attribute to the diversity of resources in the County (see Draft EIR pp. 4.5-1 through -34). This includes quantification and mapping of biotic communities (including those that are of limited distribution and sensitive biotic communities (see Draft EIR Figure 4.5-3), identification of the varied topography, geology, soil and precipitation conditions in the County, and identification of the likely occurrence of special-status plant and animal species (as defined on Draft EIR pp. 4.5-11 through -15). Draft EIR pages 4.5-1 and -2 specifically acknowledge the County's robust and unique biodiversity. The reader is also referred to Section 4.0 of this document that contains

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edits to Draft EIR Table 4.5-1 to include additional plant species of concern identified by CNPS as well as edits to Tables 4.5-5 and 4.5-6 that identify what sensitive biotic communities (as defined on Draft EIR p. 4.5-50) are included in the land cover type impact analysis in these tables that are associated with the County's biodiversity.

Although extra efforts were undertaken to both acknowledge and quantify the impacts to the County's biodiversity, there is no specific requirement under CEQA nor under state and federal law (endangered species acts) that requires an impact evaluation specifically addressing biodiversity. However, the revisions to the Conservation Element described above now include policy provisions to protect, enhance, and monitor the County's biodiversity. The impact analyses of the Draft EIR section do address impacts to biological resources that create and foster biodiversity including sensitive biotic communities, special-status plant species, special-status wildlife species, and ecological processes essential to maintaining biodiversity, including the displacement of native species by invasive non-native species, and preservation of wildlife movement corridors and plant dispersal opportunities.

Draft EIR Tables 4.5-3 through 4.5-7 identify and quantify anticipated impacts of proposed subsequent development (residential, non-residential, and new vineyard development) on the County's biotic communities, sensitive biotic communities, and special-status plant and animal species (see Draft EIR pp. 4.5-45 through -67 regarding methodology and assumptions used to evaluate impacts of development that involved the use of GIS data for direct impacts and consideration of indirect impacts [e.g., trail development and infrastructure]). Thus, the Draft EIR does identify and address proposed General Plan Update impacts on biodiversity by evaluating impacts to resources that make up the County's biodiversity (it should be noted that the Draft EIR Section 4.6 [Fisheries] addresses potential General Plan Update impacts on aquatic resources that are also a component of the County's biodiversity).

Invasive Species

Commenters identified that the Draft EIR failed to address the existing, ongoing impacts to biological resources due to the presence of spreading invasive non-native species. The existing and future threats of invasive species to the biological resources of the County are discussed in the BDR within habitat and evaluation area discussions, which are incorporated by reference in the Draft EIR. Implementation of Draft EIR mitigation measure MM 4.5.1c (which has been subsequently incorporated in the revisions to the Conservation Element of the proposed General Plan Update) would reduce deleterious effects of noxious weeds to natural lands by minimizing the potential for establishment of new noxious weed populations through creation and implementation of an Invasive Weed Ordinance. While it is acknowledged that there are existing issues with non-native invasive species, CEQA does not require mitigation for existing conditions/impacts.

Wildlife Movement and Wildlife Corridors in the Draft EIR

Commenters suggest that the wildlife movement analysis provided in the Draft EIR is inadequate and understates the extent of the impact. These comments identify inconsistencies between the Draft EIR impact conclusions regarding sensitive biotic communities and wildlife movement as well as conflicts with the data and analysis provided in the Napa County Baseline Data Report (BDR).

Movement corridor is a broad term that can encompass a variety of movement passages: from large herd migration corridors and small local movement corridors between habitat patches to infrequently used dispersal corridors necessary to move genetic material between sub

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populations (both plant and animal). The character of passages is species-specific. Some passages are fairly permanent (fish migration routes, seasonal deer migration routes, waterfowl/flyways); others are transient (intra-patch passages); and the nature, location, and use of others are unknown at this time. Effects to existing wildlife movement from implementation of the land use alternatives associated with the proposed General Plan Update Draft were analyzed using data presented in the BDR. Map 4-2 of the BDR (upon which Draft EIR Figure 4.5-4 is based) identifies major wildlife corridors in Napa County and adjacent lands in surrounding counties as identified by the California Wilderness Coalition in *Missing Linkages: Restoring Connectivity to the California Landscape* (2001), available <www.calwild.org/resources/pubs/linkages/>. The Draft EIR notes that wildlife movement in the County is already constrained as a result of existing roads, development, and fencing of parcels (see Draft EIR p. 4.5-66), while the BDR notes that movement by fisheries is currently constrained from existing bridges, dams, culverts, and related structures (see BDR p. 4-50).

Mitigation measure MM 4.5.3a addresses the variation of corridor requirements and the unknown nature of corridor locations through ensuring each project provides protection to all existing movements on site, while mitigation measure MM 4.5.3b ensures that movement is not impaired through new vineyard fencing, and mitigation measures MM 4.6.5a through c and MM 4.6.6 would protect fishery habitat and passage. These mitigation measures (in addition to existing County Code provisions under Chapter 18.108 that provide for vegetation preservation and retention as well as setbacks from stream/riparian corridors) provide an appropriate performance standard to ensure that maintenance of existing wildlife corridors county-wide and not specifically limited to major movement areas identified in the Draft EIR and BDR (see Draft EIR Figure 4.5-6). These mitigation measures are also consistent with the management considerations and conclusions identified in the BDR that call for the maintenance of movement corridors (see BDR pp. 4-51 through -63 and 4-76 and -77), and in combination with mitigation measures MM 4.5.1a through c and MM 4.5.2a through c (which provide avoidance measures, preservation of habitat, habitat connectivity and restoration), are expected to reduce potential impacts to special-status wildlife species and their movement to less than significant.

It should be noted that the BDR's conclusions do not identify that current natural resource protective provisions set forth in County Code Chapter 18.108 are not effective in maintaining wildlife movement corridors (as suggested by the Sierra Club in Comment Letter 121). No technical evidence has been provided by commenters that counters these conclusions of the Draft EIR.

“Mansion” Development and Biological Resources

Some comments expressed concern regarding the effects of “mansion development” on wildlife movement and habitat fragmentation, citing the BDR.

The BDR states that habitat fragmentation is one of the greatest threats to biodiversity and species survival in general. The Draft EIR concurs that fragmentation can be a great threat to biodiversity and species survival. Mitigation measures MM 4.5.3a and 4.5.3b (as well as provisions under County Code Chapter 18.108) would ensure that these effects are avoided and minimized in the County. These measures would apply to each project receiving discretionary approval by the County including, in some cases, large single-family home “mansion developments” or associated improvements that trigger discretionary approval (e.g., homes requiring review under the County's viewshed ordinance or roads requiring discretionary review due to slope or location). Most large single-family homes can be built without specific review or conditions of approval, however, and could have some direct impacts on habitat removal and wildlife movement. These homes would occur primarily in areas of the County that require minimum parcel sizes ranging from 40 to 160 acres, which would tend to disperse the ground disturbance impacts.

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It is recognized that “mansion” development can have an impact beyond the development of the house itself including outbuildings, landscaping, fencing, and vegetation clearing. This impact would be to habitats located within the affected areas, wildlife movement areas blocked by fencing or other obstruction, and indirect effects of noise, pets, light, and so forth. Specific quantification of such effects is not possible as this would depend on knowing the extent of such development and their character, but such development would contribute to the overall level of effect on biological resources. As identified on Draft EIR p. 4.5-55, these impacts of residential development (urban and rural) were considered in the Draft EIR biological resources impact analysis (see summary of impacts above), though at a more qualitative level of detail than the vineyard development scenarios (e.g., anticipated direct and indirect impacts on biological resources from growth anticipated under each of the alternatives). However, the Draft EIR does quantify and address land disturbance from urban and rural development contained within the designated “bubbles,” non-agricultural designated areas and the proposed American Canyon RUL from the General Plan Land Use Map as part of the overall biological resources impact analysis (see Draft EIR Tables 4.5-3 and 4.5-5).

Relationship Between the Analysis in the Baseline Data Report (BDR) and Draft EIR

Comment Letter 121 (Sierra Club) suggests that the information and analysis contained in the Draft EIR is counter to the analysis provided in the BDR and specifically identify a potential “build-out” analysis scenario provided in the BDR (BDR Map 4-19). As specifically noted on Draft EIR page 4.0-4 and on Draft EIR page 4.5-1, the Draft EIR setting and impact analyses utilize the technical information contained in the BDR. Most of the mapping, habitat and species information, and quantification of habitat impacts provided in the Draft EIR is based on data from the BDR and updated where appropriate to make use of the most current environmental information available.

The BDR does present an analysis of the effects of a hypothetical “build-out scenario” to wildlife movement. The assumptions of the build-out scenario as presented in the BDR are as follows:

A map of developed parcels from the County land use layer was used to identify parcels where some development has taken place. According to the land cover map, many of these parcels were not fully developed in 1993. The buildout analysis assumed that the open space remaining on these parcels in 1993 would be converted to other uses, such as vineyards or housing. All land use categories except open space were considered capable of reducing wildlife movement. (Napa County, BDR 2005)

While not conflicting with the information on wildlife movement corridors and biological resources in the County contained in the BDR, the Draft EIR biological resources impact analysis is based on a more refined definition of development potential by the year 2030 under General Plan land use alternatives and vineyard development scenarios (see Draft EIR Figures 3.0-3 through 3.0-9, 6.0-1 and 6.0-2). Thus, the Draft EIR is based on more current and defensible projection of future land use conditions under the proposed General Plan (the reader is referred to Draft EIR Section 4.0, Introduction to the Environmental Analysis and Assumptions Used, for further details on the methodology of development forecasts).

As noted above, the Draft EIR mitigation measures are consistent with the management considerations and conclusions identified in the BDR (see BDR pp. 4-51 through -63 and 4-76 and -77). This includes retention of vegetation and habitat protection for special-status species (see Draft EIR mitigation measures MM 4.5.1a, MM 4.5.2a and b); control of invasive plant species (see Draft EIR mitigation measure MM 4.5.1c); maintenance of wildlife movement corridors (see Draft EIR mitigation measures MM 4.5.3a and b); protection and enhancement of riparian vegetation

(see Draft EIR mitigation measure MM 4.6.5a); sediment control (see Draft EIR mitigation measures MM 4.11.2a and b); and protection of summer flows (see Draft EIR mitigation measure MM 4.11.5e).

3.4.4 CLIMATE CHANGE MASTER RESPONSE

Many commenters expressed concerns regarding climate change and how it was addressed in the General Plan Update and the Draft EIR. Comment letters of note are summarized below:

The Gasser Foundation (Comment Letter 4) notes that a policy should be added to the General Plan which promotes the use of renewable energy technologies to provide a portion of the County's energy needs.

Genji Schmeder (Comment Letter 61) notes that global climate change will affect development where rising sea levels would have an impact and specifically mentions to Napa Pipe site in this regard. Mr. Schmeder also notes that climate change will impact the overall climate and the growing of wine grapes. He states that the proposed General Plan Update fails to address climate change effects in planning for housing and agriculture and suggests that goals be devised to study the effects of global climate change on the County.

The Sierra Club (Comment Letter 121) asks that the General Plan include plans to address the impact of and Napa County's contribution to global warming. The Sierra Club notes that the General Plan should identify climate change-related objectives, establish baselines, develop plans, and monitor the County's progress toward those objectives and plans through preparation of a biannual report specific to climate change. The Sierra Club goes on to suggest various methods by which Napa County's contribution to global warming could be reduced, such as exploration of public and alternate transportation options and development of alternative energy sources.

The Center for Biological Diversity (Comment Letter 138) states that the Draft EIR fails to include a complete and adequate inventory of the project's greenhouse gas (GHG) emissions and their impacts nor does it address the impact of climate change on the project. The Center recommends that an inventory of direct and indirect greenhouse gas emissions is necessary to adequately discuss alternatives and mitigation measures for GHG reduction. They also include extensive suggestions for possible mitigations they believe should be included.

EDEN (Comment Letter 148) notes that the Draft General Plan does not take into account the impacts associated with global warming and climate change, both to and from the project. EDEN identifies climate change impacts on project zoning, water supplies, flood hazards, and air quality. They recommend that the proposed General Plan Update and Draft EIR should identify project impacts and state the mitigations which will be put in place to reduce or eliminate the impacts.

Sandra Ericson (Comment Letter 155) attaches to her letter the model of sustainability related to the effects of climate change adopted by Mendocino County, as well as a Marin County grand jury report requiring the Marin Board of Supervisors to prepare for climate change. She suggests that Napa County can learn from these two examples.

In general, the comments can be separated into the following categories:

- The need for ongoing monitoring of the latest scientific findings and legal mandates;

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- The need for a complete and adequate inventory of greenhouse gas emissions associated with the General Plan Update and a discussion of the impacts from those emissions;
- Consideration and planning for climate change and the environmental effects associated with climate change; a significance determination regarding these impacts; a thorough and quantitative analysis of alternatives; and consideration of additional mitigation and avoidance measures and General Plan policies to reduce emissions.

The information provided below updates and supports the analyses and conclusions of the Draft EIR. The climate change impact associated with General Plan Update implementation and under cumulative conditions would remain significant and unavoidable under all alternatives and the Preferred Plan (as described in Section 2.0 of this document).

Modification Policy Provisions in the General Plan Update to Address Climate Change

Since release of the Draft EIR and the public draft of the General Plan Update, the General Plan Update has been substantially revised to include extensive policies that will reduce GHG emissions from future development as well as from existing development (such as expanded transit which can benefit both) compared to a "business as usual" scenario. These policy provisions are described below by emission source/activity. As further described below, the proposed General Plan Update is consistent with, and in some ways exceeds, the requirements of the Settlement Agreement between the State Attorney General and San Bernardino regarding CEQA and the analysis of climate change relative to their General Plan Update.

Greenhouse Gas Reduction Planning

The revised Conservation Element includes goals, policies, and action items to require preparation of detailed emissions inventories, development and implementation of a reduction plan, and consideration of GHG emissions in review of follow-on projects. Collectively the goals, policies, and action items ensure that the County will:

- Prepare a detailed inventory of current GHG emissions by January 1, 2009, for the County in a manner consistent with Assembly Bill 32. Prepare an estimate of forecasted emissions for 2020 and an estimate for emissions in 1990 by January 1, 2009.
- Prepare a greenhouse gas reduction plan (GGRP) after completion of the GHG emission inventory (to be completed by January 1, 2009) to reduce GHG emissions to 1990 levels by 2020.
- Develop a GHG emission inventory from County operations (energy usage, natural gas, vehicle emissions [employee and County vehicle fleet], and establish reduction targets after completion of the inventory (to be completed by January 1, 2009).
- Conduct periodic audits of County facilities to evaluate GHG emissions and progress to meeting reduction targets.
- Require projects to consider GHG emissions as part of CEQA review. For large-scale projects, assessments shall include an inventory of GHG emissions anticipated (traffic generated by the project, changes in carbon sequestration capacities caused by the project, fuel needs of the project for the associated buildings and uses on the site). Projects will include methods to reduce GHG emissions and incorporate permanent and verifiable emission offsets.

Transportation GHG Emission Sources

The revised Circulation Element and Conservation Element include goals, policies, and action items that provide opportunities for GHG emission reductions associated with transportation sources, including:

- Encouragement of the use of alternative forms of transportation in projects (walking, bicycling, transit).
- Provision for the movement of people in the County that does not increase private vehicle usage.
- Promotion of transit-oriented development.
- Coordination with other agencies in the expansion of transit.
- Reduce single occupancy vehicle trips in the County to rates consistent with the Bay Area.
- Construct or designate approximately 40 miles of additional bike lanes in the County.
- Implement programs that encourage alternative modes of transportation and the use of alternative fuels.
- Develop effective connections between public transit in the County and regional transit services.
- Provision of transit amenities for development along fixed transit routes.
- Coordination with other agencies on the implementation of the Napa Countywide Bicycle Plan.
- Provision of incentives and opportunities for energy-efficient forms of transportation (transit, carpooling, walking, and bicycling).
- Extend transit to urban areas where development densities would support transit use.
- Support intergovernmental efforts directed at stringent tailpipe emission standards.
- Ensure that all County vehicles conform with applicable standards and purchase lowest emitting vehicles commercially available to the extent feasible.

Construction GHG Emission Sources

The revised Conservation Element includes policies and action items that would provide opportunities for GHG emission reductions associated with construction sources, including:

- New discretionary projects shall be evaluated for potential air quality impacts and will be required to incorporate appropriate design, construction, and operational features to reduce emissions.

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- The County will require the use of construction emission control features required by the California Air Resources Control Board and Bay Area Air Quality Management District that are appropriate for the project and may include the use of low emission construction equipment, restrictions on the length of time of use of certain heavy-duty construction equipment, and other measures (alternative fuels and diesel particulate filters).
- Promote the implementation of sustainable practices and green technology in agriculture, commercial, industrial, and residential development through construction (use of recycled, low-carbon, and otherwise climate friendly materials as well as minimize, reuse, and recycle construction waste), and education and outreach (provision of trained staff in sustainable practices, implement partnerships with public and private entities on the topic of sustainable practices, and encourage development to use methods to reduce and capture CO₂).
- The County will promote and encourage "green building" design, development, and construction through the achievement of Leadership in Energy and Environmental (LEED) or equivalent standards (such as auditing County practices associated sustainability, development of new County buildings as "green buildings," and encouragement of new development to achieve LEED standards).

Stationary and Building GHG Emission Sources

The revised Conservation Element includes policies and action items that would provide opportunities for GHG emission reductions associated with development and building sources, including policies that would:

- Promote the implementation of sustainable practices and green technology in agriculture, commercial, industrial, and residential development through construction (use of recycled, low-carbon, and otherwise climate friendly materials as well as minimize, reuse, and recycle construction waste) and education and outreach (provision of trained staff in sustainable practices, implement partnerships with public and private entities on the topic of sustainable practices, and encourage development to use methods to reduce and capture CO₂).
- The County will promote and encourage "green building" design, development, and construction through the achievement of Leadership in Energy and Environmental (LEED) or equivalent standards (such as auditing County practices associated sustainability, development of new County buildings as "green buildings," and encouragement of new development to achieve LEED standards).
- New discretionary projects shall be evaluated for potential air quality impacts and will be required to incorporate appropriate design, construction, and operational features to reduce emissions.
- Provide information to the public and builders on available energy conservation methods to exceed Title 24 standards by 15% or more.

Energy GHG Emission Sources

The revised Conservation Element includes policies and action items that would provide opportunities for GHG emission reductions associated with energy sources, including the following:

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- The County shall develop a GHG emission inventory from County operations (energy usage, natural gas, vehicle emissions [employee and County vehicle fleet], and will establish reduction targets after completion of the inventory (to be completed by January 1, 2009).
- The County shall quantify locally generated energy and will establish annual numeric targets for local production of energy that has minimal GHG production such as renewable sources (e.g., solar, wind, biofuels, waste, and geothermal).
- The County will evaluate and implement (as appropriate) new technologies for energy generation and conservation that will include technological advances, which may reduce GHG emissions for the County.

Current State of Regulatory Guidance concerning CEQA and Climate Change Analysis

Currently there are no published thresholds or recommended methodologies for determining the significance of a project's potential cumulative contribution to GCC in CEQA documents. The California Air Resources Board (CARB), the California Environmental Protection Agency, and other governmental agencies with jurisdiction have not yet developed guidelines on how to prepare a CEQA impact assessment for a project's GHG contribution to GCC. SB 97, adopted in August 2007, requires the California Office of Planning and Research to prepare guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions for submissions to the Resources Agency by July 1, 2009, and for the Resources Agency to certify or adopt these guidelines by January 1, 2010.

The State Legislature enacted and the Governor signed AB 32, the Global Warming Solutions Act of 2006, which charged CARB to develop regulations on how the state would address GCC. These regulations are expected to be promulgated in 2010 (concerning "early actions" to reduce GHG emissions) and 2012 (concerning the overall GHG reduction plan for California).

Comparison of the Proposed Napa County General Plan Update to the Requirements of the Settlement Agreement between the Attorney General's Office and San Bernardino County

The following are the requirements of the Settlement Agreement between the Attorney General and San Bernardino County regarding CEQA and analysis of climate change relative to their General Plan Update:

- **General Plan Amendment.** San Bernardino County is required to prepare an amendment to its General Plan adding a policy that describes the County's goal of reducing those greenhouse gas emissions reasonably attributable to the County's discretionary land use decisions and the County's internal government operations, and calls for adoption of a Greenhouse Gas Emissions Reduction Plan.
- **Greenhouse Gas Emissions Reduction Plan.** San Bernardino County is required to prepare a Greenhouse Gas Emissions Reduction Plan.
- **Current, 1990 and 2020 Greenhouse Gas Emissions Inventory.** San Bernardino County is required to prepare an inventory of all known, or reasonably discoverable, sources of Greenhouse Gases that currently exist in the County, that were known to exist in 1990, and that are expected to exist in 2020
- **Environmental Review of Greenhouse Gas Emissions Reduction Plan.** San Bernardino County is required to conduct environmental review of the General Plan amendment and the Greenhouse Gas Emissions Reduction Plan.

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- **Timing.** San Bernardino is required to use best efforts to prepare and adopt the General Plan amendment, the Greenhouse Gas Emissions Reduction Plan, and the environmental review of those documents, within 30 months from the execution of the Agreement.

The proposed Napa County General Plan Update policy provisions are consistent with the Settlement Agreement, given that Napa County has already identified extensive policies for emissions reduction as well as the commitment to the first steps toward preparing a GGRP (completion of an inventory by January 1, 2009). In the timeframes discussed above, Napa County would proceed on a timeframe for adoption of a reduction plan within approximately 24 months of General Plan adoption, which is faster than the Agreement schedule. Since the settlement does not mandate a specific reduction target, Napa County's General Plan would commit the County to a reduction level at the outset of the process that is consistent with AB 32. Thus Napa County's approach to inventories, the GGRP, and CEQA compliance is consistent with and in some ways exceeds the requirements of the Settlement Agreement.

Overview of the Draft EIR Climate Change Analysis and Uncertainties Regarding Climate Change

Global climate change, which most scientists believe to be caused by greenhouse gas emissions (GHG), is a widely discussed scientific, economic, and political issue. Briefly stated, global climate change (GCC) is a change in the average weather of the earth that may be measured by changes in wind patterns, storms, precipitation, and temperature.

The issue of greenhouse gas emission increases in the Earth's atmosphere from human activities and the associated linkages to climate change are addressed in the Draft EIR (see Draft EIR pp. 4.8-11 through -38 and 5.0-16). Research cited in the Draft EIR and in this document demonstrates that human activities, such as the burning of fossil fuels and clearing of forests, contribute additional carbon dioxide (CO₂) and other heat trapping gas emissions (e.g., methane, ozone, water vapor, nitrous oxide, and chlorofluorocarbons) into the atmosphere. Future global climate change is anticipated to have widespread environmental consequences that could affect many of California's important resources, including its water supply. In California, observational trends from the last half century have already identified warmer winter and spring temperatures, decreased snow levels in lower- and mid-elevation mountains during the spring months, and flowers blooming earlier than under historical conditions (Cayan, et al., 2006).

The Draft EIR identifies implementation of the proposed General Plan Update as resulting in a significant and unavoidable impact associated with increases in GHG emissions under project and cumulative conditions (see Draft EIR pp. 4.8-35 through -38 and 5.0-16).

It should be noted that the impact analysis in the Draft EIR treats projected GHG emissions under the proposed General Plan Update as if they were entirely new emissions, and does not correct for potential shifts of the location of a GHG-emitting activity (e.g., where people live, where vehicles travel or where companies conduct business). For example, it is possible that new residents anticipated under the proposed General Plan Update may migrate from other portions of the San Francisco Bay Area and result in new emissions (e.g., as a result of a longer vehicle commute) or alternatively may simply change the location of the source of the emissions but do not result in a net change in global GHG emission levels. Given that the exact make-up of future residents and businesses locating to the County is unknown and speculative, no correction was made in the Draft EIR analysis. With greenhouse gas emissions, the importance is not the individual circumstances, but whether or not the population and economy overall is growing (and thus associated emissions will increase under "business as usual" circumstances). Nonetheless, growth is projected in all Bay Area counties (including San Francisco) and thus it

cannot be concluded that growth in Napa County does not represent net growth and that related emissions do not represent new net emissions.

While the increase of greenhouse gas levels in the Earth's atmosphere is a key component to increases in the average global temperature and associated effects of climate change, several complex mechanisms interact within the Earth's energy budget to establish the average temperature. For example, a change in ocean temperature would be expected to lead to changes in the circulation of ocean currents, which, in turn would further alter ocean temperatures. There is some uncertainty on how some factors could affect global climate change because they have the potential to both enhance and neutralize future climate warming. Examples of these conditions include the reduction of effect of aerosols (including particulate matter) over time which could amplify climate change, the increase of cloud cover with temperature rise, and other feedback mechanisms such as permafrost change and reduction in the albedo effect of polar and sea ice.

Greenhouse Gas Emissions Inventory Associated with the General Plan Update

Commenters (especially Center of Biological Diversity – Letter 138) specifically noted that the General Plan Update and Draft EIR need to provide a complete and detailed inventory of all potential greenhouse gas emission sources that include:

- Construction-related emissions (construction equipment, vehicle trips, manufacturing and transportation of materials, and fugitive emissions);
- Emissions associated with electricity generation and transmission for land uses in the County;
- Emissions generated from water supply delivery and wastewater service and treatment;
- Natural gas and propane gas emissions from residential and non-residential uses;
- Vehicle and transportation emissions (service trips, employee trips, resident trips, transportation of materials and products);
- Emissions associated with the production of materials (e.g., cement, adipic acid, and ammonia) and agricultural products in the County as well as fugitive emissions (methane leaks from pipeline systems and leaks of HFCs from air conditioning systems); and
- Wastewater and solid waste storage and disposal, including transportation where applicable and outsourced activities and contracting.

The Draft EIR provides estimates of current greenhouse gas emissions of the state and Napa County. As noted on Draft EIR p. 4.8-12, California is currently the 12th to 16th largest emitter of CO₂ in the world and is responsible for approximately 2% of the world's CO₂ emissions, with approximately 492 million gross metric tons of carbon dioxide-equivalent emissions generated in 2004. In comparison, the Bay Area Air Quality Management District estimates that Napa County emitted approximately 1.4 million tons of carbon dioxide-equivalent emissions in 2002 and therefore was considered the lowest contributor in the Bay Area.

The Draft EIR discloses that population growth in Napa County (cities and unincorporated areas) could increase by 18% to 28% depending on alternative (see Draft EIR Table 4.8-6 on Page 4.8-19). As a crude forecast, one could assume that greenhouse gas emissions are proportional to population level. Using this methodology, the results for 2030 are shown in **Table 3.0-2**. (Results

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for the Preferred Plan would resemble results for Draft EIR Alternative A, since the population projections would be similar. See Section 2.0.)

**TABLE 3.0-2
ROUGH POTENTIAL GREENHOUSE GAS EMISSIONS INCREASES UNDER THE PROPOSED GENERAL PLAN UPDATE BASED ON POPULATION GROWTH, "BUSINESS AS USUAL" ASSUMPTIONS (NO CHANGE IN PER CAPITA EMISSIONS LEVELS) IN NAPA COUNTY 2005-2030**

Alternative	Population	Estimated CO2 Equivalent Emissions (metric Tons Per Year)	Change in Estimated CO2 Equivalent Emissions (metric Tons Per Year)
Existing (2005)	124,994	1,400,000 (1)	
Alternative A	147,007 (+ 18 %)	1,646,557 (2)	246,557
Alternative B	151,023 (+ 21%)	1,691,539 (2)	291,539
Alternative C	160,057 (+ 28%)	1,792,724 (2)	392,724

(1) CO₂ equivalent emissions for 2002 from BAAQMD, Source Inventory of Greenhouse Gas Emissions. No adjustment made for 2005 population.

(2) CO₂ equivalent emissions for 2030 by assuming no change in per capita emissions from 2002 and calculation of emissions growth based on population alone. Does not take into account changes in fuel/mileage efficiency, changes in electricity sources, building efficiency, etc.

The Draft EIR provided greenhouse gas emission estimates associated with increased traffic volumes and household energy use. Specifically, the Draft EIR disclosed vehicle-related emissions associated with PM peak hour VMT on a daily basis. This estimate has been updated by calculating VMT as equivalent to 10 times the PM peak hour VMT and by assuming 365 days per year of the daily VMT. Results are shown in **Table 3.0-3**: (Results for the Preferred Plan would fall between those for Alternatives A and C, since population and employment projections would resemble Alternative A and road network improvements would resemble those in Alternative C. See Section 2.0.)

**TABLE 3.0-3
POTENTIAL CARBON DIOXIDE EMISSIONS INCREASES UNDER THE PROPOSED GENERAL PLAN UPDATE BASED FROM INCREASE IN VEHICLE-MILES TRAVELED, "BUSINESS AS USUAL" ASSUMPTIONS (NO CHANGE IN VEHICLE EMISSIONS ASSUMPTIONS) IN NAPA COUNTY 2005-2030**

Alternative	Daily VMT (10 X PM Peak)	Estimated CO2 Emissions (metric Tons Per Year)	Change in Estimated CO2 Emissions (metric Tons Per Year)
Existing (2005)	1,960,250	261,870 (1)	
Alternative A	4,808,210 (+ 145%)	642,329 (2)	380,459
Alternative B	5,051,440 (+ 158%)	674,822 (2)	412,952
Alternative C	5,250,610 (+ 168%)	701,429 (2)	439,559
Alternative E	5,137,280 (+ 162%)	686,289 (2)	424,419

(1) CO₂ emissions based on assumed 366 grams of carbon dioxide per mile.

(2) CO₂ emissions do not take into account expected improvements in gas mileage, lowering of carbon content of fuels, and increased use of alternative fuels and vehicles.

As shown, the potential increases in carbon dioxide emissions are larger than the overall greenhouse gas emissions estimated in **Table 3.0-2** based on forecasting future emissions based on population growth on a fixed emissions/capita basis as a result of projected increases of vehicle miles traveled in and through the County. This points to the need to complete a more

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detailed inventory of greenhouse gas emissions as proposed in the policy provisions of the General Plan Update in order to accurately identify the potential sources of increased emissions and the reduction measures to address the key sources.

The Draft EIR also estimated increased GHG emissions associated with residential development under the General Plan Update as resulting in 4,341 to 14,829 additional metric tons of CO₂ annually depending on the alternative ultimately selected (see Draft EIR pp. 4.8-35 through -38). There was a math error in the Draft EIR calculations and the updated emissions are shown in **Table 3.0-4** below. See Section 4.0 for revisions to the Draft EIR to correct this error. (Again, results for the Preferred Plan would resemble results for Alternative A, since projected residential development would be similar. See Section 2.0.)

**TABLE 3.0-4
POTENTIAL GREENHOUSE GAS EMISSIONS INCREASES UNDER THE PROPOSED GENERAL PLAN UPDATE FROM HOUSEHOLD VEHICLE EMISSIONS AND BUILDING ENERGY USE, “BUSINESS AS USUAL” ASSUMPTIONS (NO CHANGE IN VEHICLE, BUILDING, OR ELECTRICITY EFFICIENCY) IN UNINCORPORATED NAPA COUNTY 2005-2030**

Alternative	Dwelling Units	Estimated CO ₂ Emissions (metric Tons Per Year) (1)	Change in Estimated CO ₂ Emissions (metric Tons Per Year)
Existing (2005)	10,260	199,194	
Alternative A	12,495 (+ 22%)	242,586 (2)	43,392
Alternative B	14,145 (+ 38%)	274,620 (2)	75,426
Alternative C	17,895 (+ 74%)	347,425 (2)	148,231
Alternative D	12,211 (+ 19%)	237,072	37,878
Alternative E	16,795 (+ 64%)	326,069	126,875

(1)GHG emissions based on EPA Personal Greenhouse Gas Calculator estimate of 19.4 metric tons of greenhouse gas emissions per household including commute and building energy use.

(2) GHG emissions do not take into account expected improvements in gas mileage, lowering of carbon content of fuels, and increased use of alternative fuels and vehicles nor of residential building energy efficiency improvements or of electricity source changes.

While it is not possible to accurately estimate GHG emissions associated with new commercial, industrial, and winery uses at this time because the exact mix of commercial and industrial uses cannot be precisely estimated at this time, it is possible to roughly approximate CO₂ equivalent emissions based on the natural gas usage assumptions contained in the URBEMIS2007 air quality model and based on average electricity demand. **Table 3.0-5** below provides an estimate of potential future stationary GHG emissions from natural gas usage and electricity demand using non-residential square footage and estimated number of new wineries from Appendix B of the Draft EIR.

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**TABLE 3.0-5
POTENTIAL COMMERCIAL, INDUSTRIAL, AND WINERY BUILDING ENERGY USE GREENHOUSE GAS EMISSIONS UNDER
THE PROPOSED GENERAL PLAN UPDATE
IN THE UNINCORPORATED COUNTY 2005-2030**

Alternative	Development Between Year 2005 and 2030	Estimated CO ₂ Emissions Related to Natural Gas Consumption (Metric Tons Per Year) (1)	Estimated GHG Emissions Related to Electricity Consumption (Metric Tons/Year) (2)	Total GHG Emissions (Metric Tons/Year)
A	Non-residential Square Footage: 16,014,000 sq ft.	30,749	70,902	101,651
	New Wineries: 225	35,917	24,905	60,822
	<i>Total Emissions</i>	66,666	95,807	162,473
B	Non-residential Square Footage: 14,636,000 sq ft.	28,102	64,801	92,903
	New Wineries: 225	35,917	24,905	60,822
	<i>Total Emissions</i>	64,019	89,706	153,725
C	Non-residential Square Footage: 12,990,000 sq ft.	24,943	57,513	82,456
	New Wineries: 225	35,917	24,905	60,822
	<i>Total Emissions</i>	60,860	82,418	143,278
D	Non-residential Square Footage: 16,279,000 sq ft.	31,258	72,076	103,334
	New Wineries: 225	35,917	24,905	60,822
	<i>Total Emissions</i>	67,175	96,980	164,155
E	Non-residential Square Footage: 19,574,000 sq ft.	37,584	86,664	124,248
	New Wineries: 225	35,917	24,905	60,822
	<i>Total Emissions</i>	73,501	111,569	185,070

These emissions are based on emission factors for industrial, commercial and retail contained in the URBEMIS2007 Air Quality Model for natural gas consumption and do not take into account any details regarding specific uses or operations that may make up the actual uses. Wineries estimates were based on emission factors for industrial uses. No adjustment was made for potential future efficiency reductions in natural gas consumption

These emissions are based on electricity demand factors for a 2003 50,000 SF commercial building from the U.S. building survey, and emissions factor for grid electricity from the California Climate Registry's General Reporting Protocol. No specific assumptions were made for winery electricity use – each winery was assumed to have the equivalent of a 25,000 SF commercial building which may overstate or understate actual demand. No adjustments were made for potential future efficiency reductions in building electricity demand or in changes to electricity generation sources.

Thus, the Final EIR has roughly inventoried GHG emissions from the following sources:

- 1) population growth (see Table 3.0-2);
- 2) VMT increase (see Table 3.0-3)
- 3) residential growth (including related VMT) (see Table 3.0-4); and
- 4) commercial, industrial, and winery building energy use (see Table 3.0-5).

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Other non-quantified GHG sources (at this time) include the following:

- 1) industrial combustion and industrial processes;
- 2) agricultural, forestry, and other non-road equipment;
- 3) land use changes (vineyard conversions, urban conversions, etc.);
- 4) air travel and Napa County operations;
- 5) water supply (related to pumping energy consumption);
- 6) emissions from production of materials outside Napa County that are used in the County;
- 7) wastewater and solid waste storage and disposal; and
- 8) construction equipment.

Quantification of these sources is subject to substantial uncertainty at this time due to the lack of detailed information on future industrial processes, the extent of equipment activity for future agricultural and forestry activity, the change in carbon sequestration from conversion of natural lands to other land covers, how to account for air travel without double-counting, water supply pumping electricity demand, net methane emissions from landfills (taking into account landfill specific data on methane collection and recovery systems), and the actual character of construction activity over the next 25 years. As described above, the County intends to develop detailed inventories to attempt to quantify as many sources as possible to inform the development of a greenhouse gas reduction plan subsequent to adoption of the General Plan Update.

The proposed General Plan Update establishes policy provisions to guide County land use and development activities and actions, natural resources, open space and infrastructure improvements; it does not propose or entitle project specific land uses. Numerous factors that can substantially affect the County's future GHG emissions, such as structural designs, type of building occupants, siting, and hours of operation, will not be known until specific projects are proposed.

The estimates and associated analysis of GHG emissions associated with subsequent land use activities in the County under the proposed General Plan Update in the Draft EIR and in this response meet the requirements of CEQA to "provide sufficient information to foster informed public participation and to enable the decision makers to consider the environmental factors necessary to make a reasoned decision as required under CEQA" (see *Berkeley Keep Jets Over the Bay Com. v. Board of Port Commissioners* [1st Dist. 2001] 91 Cal. App. 4th 1344, 1355 [111 Cal. Rptr. 2d 598] and State CEQA Guidelines Section 15204[a]). In addition, State CEQA Guidelines Section 15151 (Standards for Adequacy of an EIR) identifies that an EIR analysis need not be overly detailed. Specifically, Section 15151 states: "An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." In this case, the Draft EIR provides adequate data and analysis to make the necessary impact determination regarding anticipated increases in greenhouse gas emissions in association with climate change from the adoption of the proposed General Plan Update. Additional inventory analysis of every possible source of GHG emission in the County would be not be feasible based on the lack of detailed information on future land uses, cost and time that would be involved and would not materially change the impact conclusions identified in the Draft EIR.

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Consideration of Climate Change and Its Environmental Effects

Several commenters expressed concerns regarding the environmental effects of climate change associated with sea level rise, impacts to vineyards and wine production, water resources, water supply, and flooding. Draft EIR page 4.8-35 (Impact 4.8.7) specifically notes that GHG emissions from the County (in combination other GHG emissions) could contribute to increases in global average temperatures and climate change, and that climate change could in turn lead to sea level rise and other changes in environmental conditions.

Global climate change is anticipated to influence many interconnected phenomena, which may in turn affect the rate of climate change itself. Faced with this overwhelmingly complicated system, climate change modeling efforts need to make assumptions to simplify the phenomenon, such as assuming a rate of temperature change. Thus, these assumptions make the models applicable to particular aspects of the changing environment, and the models represent possible scenarios that come with a set of presuppositions. For these reasons, a range of models must be examined when trying to assess the potential effects of climate change and the resulting analysis is most appropriately qualitative. Thus, the following is a qualitative discussion of potential environmental effects on the County associated with sea level rise, water resources and supply, flooding, and wine production based on the currently available data. A discussion of potential environmental effects of climate change to California is provided in the California Environmental Protection Agency's "Scenarios of Climate Change in California: An Overview."

(see: <http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-500-2005-186-SF>)

Sea Level Rise

Several comment letters expressed concerns over sea level rise and suggested that the General Plan Update include policies to protect land uses, infrastructure, and the potential development of residential and mixed uses at the Napa Pipe site from potential flooding. Several comment letters offered estimates on the extent of sea level rise (from 28 to 60 centimeters [cm] increase). The California Environmental Protection Agency's "Scenarios of Climate Change in California: An Overview" (Climate Scenarios Report 2006) identifies that by the 2070-2099 period, sea levels could rise from 13 to 89 cm (5.1 to 35.2 inches) (depending on the emissions scenario modeled). The California coast has already experienced sea level rises of approximately 15 to 20 cm (6 to 8 inches) over the past century (CalEPA, 2006). Potential environmental effects include flooding and salt water intrusion into groundwater resources of Napa Valley.

As identified in the Draft EIR page 4.11-73, the County allows for development within designated flood areas provided that residential structures are built at least one foot higher than the 100-year flood level and that non-residential structures are either elevated similar to residential structures or provide an alternate form of flood proofing. In addition, the Draft EIR acknowledges that groundwater resources in the Napa Valley are potentially vulnerable to saltwater intrusion (especially in regards to increased groundwater pumping anticipated in the future) (see Draft EIR p. 4.11-63). Since release of the Draft EIR and the public draft of the General Plan Update, the Conservation Element has been revised to include policy provisions that would require the County to monitor changes in sea level and implement adaptive water management practices to address salt water intrusion to protect groundwater resources (when warranted).

Water Supply and Groundwater

While most climate model simulations project relatively moderate changes in precipitation over this century, rising global temperatures are expected to result in reductions in snowpack for the Sierra Nevada Mountains (i.e., precipitation changing in the form of rain from snow). By the 2035 to 2064 period, the Sierra Nevada snowpack could decrease from 12% to 40% as compared to historic levels (depending on the climate scenario) (Cal/EPA, 2006). The Sierra Nevada Mountains snowpack currently acts as a natural water storage (equal to approximately half of the storage capacity of California's major human-made reservoirs) by holding the winter precipitation and releasing it during the spring and early summer months as the snow melts. The reduction of this natural water storage during the winter could mean water shortages in the future and would require the alteration of the management of existing reservoirs (while not losing flood control capacity or hydropower generation capacity) and/or the construction of additional human-made reservoirs to compensate for this storage loss.

The Department of Water Resources (DWR) report, *Progress of Incorporating Climate Change into Management of California's Water Resources*, included an analysis of climate change impacts on the State Water Project (SWP) and the Central Valley Water Project (CVP) operations and on the Delta. The CVP and SWP are a major source of water for the cities of American Canyon, Napa, and Calistoga. Results presented in the report are preliminary and incorporate several assumptions, and the results reflect only a limited number of climate change scenarios and do not address the probability of each scenario occurring. The results of this analysis suggested several climate change impacts on overall SWP and CVP operations and deliveries. In three of the four climate scenarios simulated, CVP north-of-Delta reservoirs experienced shortages during droughts. The report recommends that future studies examine operational changes that could avoid these shortages. Based on this initial analysis, it is not clear whether operational changes required would be substantial in nature. The study also found that changes in annual average SWP south-of-Delta (Table A) deliveries ranged from an increase of approximately 1% for a wetter scenario to approximately a 10% reduction for one of the drier scenarios. Future studies are needed to address how north-of-Delta shortages could impact south-of-Delta CVP deliveries. (Placer County, 2007)

The California Environmental Protection Agency's "Scenarios of Climate Change in California: An Overview" identified that climate change will likely result in future storage and delivery issues for the Central Valley Water Project and the State Water Project. By the end of the century, the change in the volume and timing of runoff could reduce the ability to deliver water to agricultural users south of the Delta (15 to 50% reduction in deliveries depending on the climate scenario), which could also affect the ability to provide deliveries north of the Delta and to Napa County.

The Draft EIR identifies that currently and by the year 2050, the County will continue to experience water supply shortfalls in the unincorporated area under normal and dry year conditions (see Draft EIR pp. 4.13-15 and 4.13-40 through -47). The Draft EIR and the revised Conservation Element include protective provisions that would require verification of adequate water supplies, water conservation provisions, protection of surface water flows from groundwater extraction, protection of groundwater recharge areas, and monitoring of the County water supply sources (e.g., mitigation measures MM 4.11.5a through e and MM 4.13.3.1a and b, as well as recommendations from the 2050 Napa Valley Water Resources Study).

No detailed technical analyses have been done specifically on Napa County's water resources associated with the effects of climate change (e.g., Napa River Watershed). While it is anticipated that climate change would have some impact on surface water resources and

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flows in the County, it is speculative to identify what those specific impacts would be and whether they would substantially reduce current water supplies. Minimal research has been conducted on the effects of climate change on specific groundwater basins, groundwater quality, or groundwater recharge characteristics. Changes in rainfall and changes in the timing of the groundwater recharge season would result in changes in recharge. Warmer temperatures could lead to higher evaporation as well as prolonged drought periods that would reduce the amount of water entering the ground that could further limit deficient water supply conditions already projected by the County under single-dry and multiple-dry years (see Draft EIR pp. 4.13-40 through -42). However, warmer and wetter winters could increase the amount of runoff available for groundwater recharge. Additional winter runoff, however, could be occurring at a time when groundwater basins are being recharged at their maximum capacity. However, the extent to which climate will change and the impact of that change on groundwater in the County are both unknown at this time.

As noted above, the Conservation Element of the proposed General Plan Update has been revised to include policies that are intended to further protect the County's groundwater resources.

Increased Flooding

Currently, there is no accurate information to accurately assess the impact of climate change for flood frequency or severity, because of the absence of detailed regional precipitation information from climate models and because water-management choices can substantially influence overall flood risk. However, increased amounts of winter runoff could be accompanied by increases in flood event severity and warrant additional dedication of wet season storage space for flood control as opposed to water supply storage. This need to manage water storage facilities to handle increased runoff could in turn lead to water shortages during high water demand. It is recognized that these impacts would result in increased challenges for reservoir management and balancing the competing concerns of flood protection and water supply. To date there have not been detailed studies of the effect of climate change on Napa County water features in order to identify where current flood conditions may be further impacted. As noted in the Draft EIR, there are currently flood control improvements occurring along the Napa River intended to improve the river's ability to pass floodwaters that could assist in accommodating potential alterations in flood events from climate change (see Draft EIR pp. 4.11-13 and -14).

As identified in the Draft EIR page 4.11-73, the County allows for development within designated flood areas provided that residential structures are built at least one foot higher than the 100-year flood level and that non-residential structures are either elevated similar to residential structures or provide an alternate form of flood proofing. The Draft EIR and the revised Safety Element include provisions for maintenance of current flow rates under the 2-, 10-, 50- and 100-year flood events as well as requiring no net increase in the severity of current flood conditions post-development (see Policy CON-50 and Action Item CON WR-2 in the Revised General Plan Update).

Impacts to Wine Production

As noted in Section 4.1, Agriculture, of the Draft EIR, the production of wine grapes accounts for the highest economic contribution to the County's agricultural economy. While no county-specific studies of the effect of climate change on the County's ability to continue to produce wine grapes has been conducted, a study has been done on the effect of climate change on premium wine production for the entire U.S. As identified in "Extreme Heat Reduces and Shifts

United States Premium Wine Production in the 21st Century," premium wine grape production areas in the U.S. could decline by 81% due to changes in climate conditions associated with temperatures and growing seasons. This analysis was based on climate change modeling for multiple scenarios for future climate conditions (2071-2099). For California, it was identified that in the future favorable regions for wine grape production would remain along coastal California (including areas north of San Francisco Bay in the general vicinity of Napa County). However, the research paper's mapping and analysis of future suitable years for wine grape production identifies an overall reduction of suitable areas in California. (M.A. White, et al., 2006)

Impacts to Biological Resources

Climate change could result in changed in temperature changes, vegetation changes, and runoff changes, and thus change the habitat suitability for rare and common species found in Napa County. The rapidity of such changes could result in adverse effects to species found within Napa County, particularly if such species are already the subject of existing adverse cumulative effects. As an example, certain mesic (wet) environments such as vernal pools could dry more rapidly or more extensively if drier conditions were to prevail, which could disrupt growing seasons for vernal pool plants or disrupt reproductive cycles for vernal pool dependent wildlife species. As noted above, sea level rise could change low-lying habitat conditions as another example. Current climate models are not sufficiently developed to predict sub-regional changes in temperature, precipitation, and runoff, and thus the character of potential habitat changes cannot be accurately described at this time.

Consideration of Secondary Environmental Effects of Implementation of Greenhouse Gas Reduction Provisions of the Proposed Napa County General Plan Update

As described above, the Revised General Plan Update includes policies and action items to develop and implement a GGRP to reduce GHG emissions to 1990 levels by 2020. The reduction measures ultimately included in the GGRP may have secondary environmental effects of their own. As the specific measures cannot be identified at this time, it would be speculative to assess what these secondary effects might be. However, the following discussion is suggestive of some of the possible secondary effects that could occur:

- Alternative Energy - If expansion of wind energy is proposed, then secondary effects on migratory birds and raptors may occur. If expansion of micro-hydropower were proposed, potential effects to migratory fish or other hydrologic effects could occur. New local energy facilities could also have footprint impacts depending on the choice of location.
- Biofuel Use - If increased biofuel use is proposed, then it is possible that changes in cropping patterns could occur locally, nationally, or globally. Use of some biofuels, while reducing greenhouse gas emissions, could increase localized emission of other criteria pollutants. However, increased biofuel use could also lower localized emissions of certain criteria pollutants and thus result in co-benefits to greenhouse gas reductions.
- Affordable Housing – New residential energy efficiency or other GHG reduction requirements could add to the initial cost for new housing which could affect housing affordability and thus result in longer commutes for certain residents employed within Napa County. Conversely, such efficiency improvements could lower energy use and costs over time that, if amortized over time, could reduce overall housing costs.

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- Housing Density – While the proposed General Plan Update focuses development within currently developed areas, the GGRP could call for even higher housing densities from that currently proposed. Such densities might require higher-story buildings in some locations which could result in visual aesthetic and aesthetic character impacts as well as localized traffic effects.
- Transportation Modes – While the proposed General Plan Update emphasizes the use of alternative transportation, the GGRP could call for an even greater level of investment in alternative modes. These alternative modes – such as expanded rail or bus rapid transit – could have secondary beneficial effects (such as reduced emissions of criteria pollutants) as well as secondary adverse effects (such as increased noise at terminal locations or biological impacts along new transit corridors (if needed)).

Some of these effects can be mitigated through the application of the proposed General Plan Update policies and action items and the mitigation measures identified in the Draft EIR. Since the GGRP would be the forum in which such measures would be actually proposed, subsequent CEQA compliance will be needed to fully disclose the secondary environmental effects of implementing the GGRP itself. As these impacts are not known at this time, but are possible, there is a potential that there may be significant unavoidable impacts of GGRP implementation that might be adopted through a statement of overriding considerations prioritizing the need to reduce GHG emissions over the other environmental effects identified.

Consideration of Additional Mitigation Measures to Reduce Greenhouse Gas Emissions

Several commenters requested that the proposed General Plan Update and Draft EIR provide expanded policies and mitigation measures to reduce or eliminate increases in GHG emissions from subsequent activities under the General Plan in the emission areas of transportation, construction activities, stationary and building emissions, energy use, and consideration of off-setting emissions.

As described above, the Revised General Plan Update includes the addition of extensive policies that will reduce GHG emissions from future development as well as from existing development (such as expanded transit which can benefit both) compared to a “business as usual” scenario. The feasibility and effectiveness of these policies as well as additional GHG emission reductions measures (as well as offsets) will be evaluated through the development and adoption of the GGRP along with their secondary environmental effects.

The County takes note of the many mitigation measures recommended by CBD and other commenters at this time and will consider these suggestions as well as those made during the public process for the GGRP development and associated CEQA process. As the challenges for GHG emissions reductions are substantial, the County believes that a deliberate and dedicated process for the GGRP is the best approach by which to result in feasible and effective GHG reductions in Napa County. Further, the state is presently engaged in an in-depth evaluation of GHG reduction measures, and the County's GGRP development will benefit substantially through the extensive work being done by CARB and other state agencies to help local agencies to identify those measures that can be implemented at the local level.