

MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

AD-A141 056

①

**FINAL  
ENVIRONMENTAL IMPACT REPORT/  
ENVIRONMENTAL IMPACT STATEMENT**

**CHAPTER 13: COMMENTS AND  
RESPONSES**

**CULLINAN RANCH**

**City of Vallejo  
U.S. Army Corps of Engineers**

**May 1984**

**DTIC  
ELECTE  
MAY 15 1984  
A**



**DTIC FILE COPY**

This document has been approved  
for public release and sale  
with the following restrictions:

**COMMENTS AND RESPONSES**

**ENVIRONMENTAL IMPACT REPORT/  
ENVIRONMENTAL IMPACT STATEMENT**

**CULLINAN RANCH SPECIFIC PLAN**  
Regulatory Permit Application Number 14775E57  
City of Vallejo, Solano County, California  
SCH #82083110

**CHAPTER XIII.**

Prepared for

City of Vallejo Planning Department  
U.S. Army Corps of Engineers, San Francisco District

By

Environmental Impact Planning Corporation  
319 Eleventh Street  
San Francisco, CA 94103

May 1984

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	
Justification	
Evaluation/	
Distribution/	
Availability Codes	
Avail and/or	
Dist	Special
A-1	



FINAL ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT  
CULLINAN RANCH SPECIFIC PLAN  
CITY OF VALLEJO, SOLANO COUNTY, CALIFORNIA  
REGULATORY PERMIT APPLICATION NO. 14775E57  
MAY 1984

ERRATA SHEET (3)

1. Page 163 of the subject document. Add the following: "IV.N. Addendum to the RMA/Krone Report, August 1983".
2. Page i of the Chapter ~~11~~<sup>12</sup> - Appendix IV volume. Add the following: "IV.N. Addendum to the RMA/Krone Report, August 1983".
3. Regarding the Chapter 13<sup>58</sup> - Comments and Responses volume:
  - a. Page 105, response 90, 3rd sentence. Change "(See Appendix III.B of the Draft EIR/EIS)" to "(See Appendix IV.N. of the EIR/EIS)".
  - b. Page 106, response 91, 2nd sentence. Change "...Appendix III.B of the Draft EIR/EIS." to "...Appendix IV.N. of the EIR/EIS.".
  - c. Page 120, response 106, 1st paragraph, last sentence. Change the "... study included in the appendix to the Draft EIR/EIS." to "...studies included in the appendices to the EIR/EIS.".
  - d. Page 271, response 306, 1st sentence. Change "...Appendix I.B..." to "...Appendix III.B...".
  - e. Page 295, response 328, 1st sentence. Change "Appendix IV.B. of the Final EIR/EIS..." to "Appendix III.B of the Draft EIR/EIS...".
  - f. Page 308, response 352, 2nd sentence. Change "... Appendix III.B of the Draft EIR/EIS." to "... Appendix IV.N. of the EIR/EIS.".
  - g. Page 308, response 353, 1st sentence. Change "(See Appendix III.B of the Draft EIR/EIS)" to "(See Appendix IV.N. of the EIR/EIS)".
  - h. Page 308, response 357, 2nd sentence. Change "...Appendix III.B." to "... Appendix IV.N.".
  - i. Page 334 response 400, 2nd sentence. Change "See Appendix III.B of the Draft EIR/EIS." to "See Appendix IV.N. of the EIR/EIS.".

## INTRODUCTION

Chapter XIII. to the Final Environmental Impact Report/Environmental Impact Statement of May 1983 contains written comments and those given at the public hearing on the Draft EIR/EIS submitted during the public review period. In addition, it contains individual responses to each comment on the Draft EIR/EIS as suggested by California EIR and Federal EIS guidelines.

The Comments and Responses are arranged by category of commentor as follows:

<u>Category</u>	<u>Comments</u>
o Individuals	1-137
o Special Interest Groups	138-249
o Local Agencies	250-275
o Regional Agencies	276-281
o State Agencies	282-350
o Federal Agencies	351-421
o Applicant & Consultants	422-504
o Persons Testifying at Public Hearing	A-1 - A-37

The comments requiring a response are numbered in the left-hand margin of each commentor's letter. The corresponding responses are found immediately after the commentor's letter in the order they appear in the letter.

In the revisions to the text of the Draft EIR/EIS and in the Responses to Comments, EIP and JSA used information available from existing literature; the Draft EIR/EIS; field studies and reports of the applicant's consultants; State and Federal agency letters, reports and personnel; and the interested public. Sources of data were cited. Extensive use was made in the biological section of the Harvey & Stanley Associates reports, the only detailed, specific biological studies of the site. Where data from existing sources seemed factual or where evaluations of data seemed reasonable, the materials or individuals were quoted directly or paraphrased with direct citation of sources.

## Table of Contents

INDIVIDUALS	<u>Page</u>
1. Ms. Barbara Kondylis, Vice Mayor, Comments 1-3	1
2. Mr. Arthur L. Braitto, Comment 4	4
3. Mr. Henry Watson, Comments 5-7	6
4. Mr. Richard Evans, Comment 8	9
5. Mr. David Landazuri, Comments 9-12	11
6. Ms. Nancy Magrin, Comments 13-16	15
7. Mr. Edward Rolf, Comments 17-29	17
8. Ms. Joanne Castro, Comments 30-38	28
9. Mr. James H. Gray, Comments 39-43	31
10. Ms. Phyllis Faber, Comments 44-60	35
11. Mr. Salem J. Rice, Geologist, Comments 61-63	47
12. Mr. Bob Berman, Comments 64-72	69
13. Ms. Jean Chapman, Comments 73-74	79
14. B. Harris, Comment 75	82
15. Mrs. Margaret Sibley, Comment 76	85
16. Ms. Dorothy Christian, Comment 77	87
17. Mr. & Mrs. Edward Beyeler, Comment 78	89
18. J. Pritchett, Comment 79	91
19. Ms. Ann S. Carpadakis, Comment 80	93
20. Ms. Karen Drellich, Comment 81-84	95
21. Ms. Karen Drellich, Comment 85	98
22. Ms. Francesca Demgen, Comments 86-95	100
23. Ms. Doris Sloan, Ph.D., Comments 96-99	107
24. Ms. Lorraine Weir Ditta, Comment 100	111

	<u>Page</u>
25. J.W. Brady, Comments 101-102	113
26. Mr. David W. Mayfield, Comments 103-121	115
27. Mr. Peter Ouborg, Comments 122-134	125
28. Mr. Martin Cohen, Comments 135-137	133
<b>SPECIAL INTEREST GROUPS</b>	
1. Mr. Larry Orman, People for Open Space, Comments 138-145	136
2. Ms. Teresa Matta, Sierra Club, Redwood Chapter, Comments 146-152	143
3. Ms. Ethel Tinneman, Holy Names College, Comment 153	146
4. Mr. William T. Davoren, The Bay Institute of San Francisco, Comments 154-159	148
5. Ms. Barbara Salzman, Marin Audubon Society, Comments 160-167	156
6. Ms. Karin Urquhart, Marin Conservation League, Comments 168-173	160
7. Ms. Joanne Craig, League of Women Voters of Solano County, Comment 174	164
8. Ms. Elsie Richey, Ohlone Audubon Society, Comments 175-184	166
9. Mr. William E. Siri, Save San Francisco Bay Association, Comments 185-190	172
10. Mr. John Winther, California Waterfowl Association, Comments 191-197	175
11. Ms. Susan Smith, Wetlands Coalition, Comments 198-218	182
12. Ms. Susan Smith, Wetlands Coalition, Comments 219-220	190
13. Mr. Bob Dunn, Vallejo Chamber of Commerce, Comment 221	195
14. Dr. Ruthann Corwin, Oceanic Society, S.F. Chapter, Comments 222-226	197
15. Mr. James P. Pacht, Sierra Club, S.F. Chapter, Comments 227-237	201
16. Ms. Ruth S. Vose, Golden Gate Audubon Society, Comments 238-241	208
17. Ms. Marian E. Reeve, California Native Plant Society, S.F. Chapter, Comment 242210	
18. Mr. George Ellman, Madrone Audubon Society, Comments 243-249	212
<b>CITY</b>	
1. Mr. Sol Friedman, Engineer/Manager, Vallejo Sanitation and Flood Control District, Comments 250-252	215
2. Ms. Pat Gloyd, Park Planner, Greater Vallejo Recreation District, Comment 253	220

	<u>Page</u>
3. Mr. M. Dale Welsh, Administrator for Support Services, Vallejo Unified School District, Comment 254	223
4. Mr. Erwin J. Folland, Water Superintendent, Office of the Water Superintendent, Comments 255-256	231

#### COUNTY/REGIONAL

1. Mr. Clayne Munk, Planning Director, Solano County Planning Department, Comments 257-267	233
2. Mr. William L. Partain, Director, Napa County Airport, Comments 268-271	238
3. Ms. Carol Evkhanian, District Biologist, Solano County Mosquito Abatement District, Comments 272-274	241
4. Mr. Joe Mendoza, President, Marin County Farm Bureau, Comment 275	244
5. Mr. Milton Feldstein, Air Pollution Control Officer, Bay Area Air Quality Management District, Comment 276	246
6. Ms. Yvonne San Jule, Planning & Budget Coordinator, Association of Bay Area Governments, Comments 277-281	249

#### STATE

1. Mr. Douglas L. Strauch, Chief, Waste Management Division, California Waste Management Board, Comment 282	252
2. Mr. Theodore W. Wooster, Environmental Services Supervisor, Region 3, Department of Fish and Game, Comments 283-307	255
3. Mr. John Gagliano, P.E., Caltrans, District 10, Comments 308-315	272
4. Mr. Michael Rondeau, Office of Historic Preservation, Department of Parks and Recreation, Comment 316	276
5. Mr. Fred H. Dierker, Executive Officer, California Regional Water Quality Control Board, Comments 317-325	278
6. Mr. Michael Wilmar, Executive Director, San Francisco Bay Conservation and Development Commission, Comments 326-350	286

#### FEDERAL

1. Mr. William Anning, Environmental Protection Agency, Coments 351-366	301
2. Mr. Floyd Anders, National Marine Fisheries Service, Comments 367-385	310
3. Ms. Patricia Port, US Dept. of Interior, Office of the Secretary, Comments 386-406	321

	<u>Page</u>
4. Captain J.R. Jacobsen, Commander, Mare Island Naval Shipyard, Comments 407-413	341
5. Dr. Frank Lisella, Environmental Health Services Division, Center for Disease Control, Comments 414-417	345
6. Lieutenant Commander W.F. Walker, Chief, Marine Environmental Protection and Port Safety Branch, U.S. Coast Guard, Comment 418	348
7. Mr. Jon D. Kennedy, US Forest Service, Comment 419	350
8. Ms. Joyce M. Wood, National Oceanic and Atmospheric Administration, Comment 420	352
9. Ms. Patricia Port, US Dept. of Interior, Office of the Secretary, Comment 421	355

#### APPLICANT AND CONSULTANTS

1. Mr. Carl Neuhausen, W.R. Williams, Inc., Comments 422-472	357
2. Mr. Herman Basmaciyani, Basmaciyani-Darnell, Inc., Comments 473-488	385
3. Mr. Dennis Furby, Harding Lawson Associates, Comments 489-494	393
4. Mr. Alfred Gobar, Alfred Gobar Associates, Inc., Comment 494b	397
5. Richard Bahme, AgriDevelopment Co., Comments 495-501	415
6. Mr. A. Doyle Reed, Agricultural Economist, Comment 501b	420
7. Mr. Ray B. Krone, Ray B. Krone and Associates, Comment 501c	422
8. Mr. Ronald Duke, Harvey & Stanley Associates, Inc., Comments 502-506	424
9. Mr. L.E. Oberkamper, Oberkamper & Associates, Comment 507	427

#### PERSONS TESTIFYING AT THE PUBLIC HEARING

Comments A-1 - A-37	430
---------------------	-----

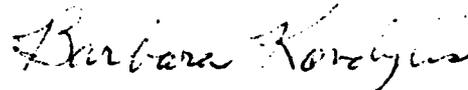
COMMENTS ON DRAFT EIR FOR CULLINAN RANCH

**1** I only have a few comments on the Draft EIR/EIS. The first concerns the maintenance and wear and tear on the levees on both the north and south sides of Dutchman Slough. What will be the impacts of increased boat traffic and resulting wave action upon the dykes? Who will be responsible for repairing the dykes and the long term maintenance of these dykes?

**2** The second concern, which I wish to address, has to do with the private dock facilities for each of the residences. What will these docks look like including cross sections and diagrams of their configurations? What will the draft requirements of the anticipated boats that will be using these docks be? Will these private residential docks be built before or after the dykes are breached? Where does BCDC fit into the construction of these private docks?

**3** The third question I have concerns the financial section of the document. The Planning Department has informed me that the financial section is going to be completely revised. Since I cannot make comments on a document which I have not seen, I will reserve the right for comment at a later date when I have had a chance to review the financial section.

Please read or record these remarks into the minutes of the Planning Commission meeting of July 6, 1983.



BARBARA KONDYLIS  
Vice Mayor

BK/vm

**LETTER #I-1**

1. The increased boat traffic and resultant wakes may cause some bank erosion. The extent of damage will depend on the size of the boats (particularly hull displacement), their speed and water depth (see also response 323). The boat traffic likely to result from the project is described in the revised text under Marina Design.

The levees are currently maintained as a shared responsibility between the property owner and the State of California under the Cullinan Ranch Boundary and Exchange Agreement (see Appendix IV.F). If the proposed project were implemented, this responsibility would shift to some type of local reclamation or special assessment district similar to a homeowners association but with policing power and the necessary water-related experience. The Vallejo City Attorney's office has prepared a memorandum summarizing possible options for the creation of a district to take care of levee maintenance as well as maintenance dredging. That memorandum is attached as Appendix IV.I.

The district to be established for levee maintenance would be responsible for planting vegetation on the levees, maintenance dredging of interior waterways and maintaining slope stability of the banks. The outboard side of the levees to the mean high water mark would remain in state control. If the levees become a public park, such as they are, responsibility for their care and maintenance would shift to that agency.

2. Private residential dock design is described in Exhibit II-3 of the Final EIR/EIS. In addition, the Cullinan Ranch Specific Plan contains various renderings of the proposed project that provide a visual interpretation of the project. The plan, which is available for inspection at the Vallejo City Planning Department, is incorporated herein by reference.

As indicated in Figure II-3, the draft requirements for boats would be a minimum of eight feet at MLLW.

The residential docks would be built in phases according to the project phasing plan. However, within each phase, the docks would be constructed before the dikes are breached.

3. San Francisco Bay Conservation and Development Commission (BCDC) approval will be

required for construction of private docks. Once the dikes are breached, BCDC will have jurisdiction over the newly created waterways. BCDC's jurisdiction over the boat docks is listed among regulatory approvals in the Final EIR/EIS.

1017 Lewis Ave.  
Vallejo, CA 94590

July 1, 1983

e2

ANN MEREDITH,  
CITY OF VALLEJO,  
VALLEJO, CA.

I am a believer in thoughtful use of resources.

I am favorably impressed with innovations such as wind generation, solar energy, waste gasification, etc. I think in terms of protecting our coastal regions from abusive off-shore drilling and nuclear waste dumping.

4  
Let me, therefore, express my great concern about the seemingly insatiable appetite for "give-aways" that developers seem to get in their many-faced approaches to our public officials. Vallejo's waterfront, even now, seems to be largely a domain of specially well-oiled elements powerful enough to get valuable concessions and services for their pleasures. Think of the elite community our planners have spawned by their working with and for for entities like the Hanover Group development of condominiums, boat and motor accommodations. This is land use without public concern. Those who occupy these future units will look downstream towards the Bay area for their activities, interests and careers, dealing with Vallejo only as demanders of services for their convenience and well-being such as utility, street, police, fire, waste removal, upkeep of boating facilities, etc. Providing this "new" district what its developers will demand is sure to be at the expense of further deterioration in costly services to central and residential Vallejo, already struggling under the impact of far-flung development into agricultural land.

Citizens of Vallejo must be awakened to the next, the most audacious (and politically ambitious) extension into ecologically sensitive Napa River swampland, the Cullinan Ranch proposal. I for one, and I hope many more local people will support the Sierra Club's sensible and necessary efforts to put this whole area outside the reach of Vallejo, thus continuing it in its natural and important present state.

Arthur L. Brait  
Arthur L. Brait

**LETTER # I-2**

4. Section III.K. of the EIR/EIS, Utilities and Services, recommends mitigation measures to avoid "deterioration" of services as a result of the project. Section III.L. of the Final EIR/EIS, Economic/Fiscal, indicates that the project would have a positive fiscal impact on the City.

C2  
70

Vallejo Planning Commission

7-4-1983

Dear Sir:

Explain how the Collinan Ranch proposal will provide low cost housing?

5a

Will the proposal meet the Housing Element requirement? How?

5b

Will the developers provide bus transportation? How? (this would cut down on the need for several cars per family.)

5c

What would it cost to provide an over-crossing? Why should you provide an over-crossing? ① the highway department can tell you how many people will tie the first year if signals are placed to stop traffic on Rte 37 to let cars on the highway. ② How much is a person's life worth? ③ You have read about million dollar awards, for people who are injured. ④ What does it cost to run one signal light a year (3 lights actually)? they are on 24 hours a day, 365 day a year. they change probably 12 times an hour, or more, (21 lights changing) plus flashers both directions. Every time the light changes there is a surge of power. What a waste of energy. Cars waste energy stopping & pollution is increased each time the car has

6

7

to stop. Stopping requires extra gas to start again.  
(There are very few accidents for cars entering the  
main line traffic off a ramp. If there is an accident  
very few people are killed in this type accident.)  
Require an overcrossing to be built.

✓ If you decide to deny the Cullinan Ranch proposal  
you could suggest they adopt the proposal that  
was made about 10 years ago to do a development  
in the Marina area similar in nature to this  
proposal.

Yours very truly  
Henry A. Watson  
562 Hickborn St.  
Vallejo.

**LETTER #1-3**

5a. See responses to comments 66 and 71.

5b. The project applicant will provide bus turnouts and shelters. Bus service would be provided by Vallejo Transit Lines. New bus routes are determined by a transit authority and are generally established when sufficient demand is evident. At the current time new bus routes to the Cullinan Ranch have not been approved. However, it is anticipated that such routes would be approved as the project develops.

5c. A grade-separated interchange at Highway 37 could cost as much as \$13 million, depending on design. Along major highways, a grade-separated interchange is generally considered to provide greater traffic safety than an at-grade interchange. Whether a grade-separated interchange will be required is, in the case of the proposed project, the responsibility of the State Department of Transportation.

6. See response to Comment 309.

7. See response to Comment 309.

C2

Planning Department  
City of Vallejo  
July 11, 1983

I would like to see the  
8 Cullinan Ranch developed, provided  
that the mitigations are worked  
out and acceptable to the citizens  
of Vallejo

Richard Evans  
401 Yuba St.  
Vallejo, CA 94590

**LETTER #1-4**

8. Commented noted, no response necessary.

C<sub>2</sub>

July 4, 1983

Planning Commission  
Vallejo City Hall  
Vallejo, California 94590

Dear Planning Commission:

I do not agree with the proposal for massive development of North Bay parks, bayshore accesses, wetlands and fisheries totaling 1550 acres, known as the Cullinan Ranch, on the shore of San Pablo Bay, north of Highway 37 and south of Napa's marshes and Leslie Salt Pond.

Annexation of the ranch would enable the development of 4,500 dwellings, 1,700 boatslips, and 60 acres of restaurants, offices and shops while taking away the largest remaining area of agriculture and wildlife habitat in the entire San Francisco Bay area.

9

In addition to the "domino effect" of urban pressure on surrounding wildlife and agricultural lands, there is also a seismic hazard and structural instability of building on 50 to 90 feet deep bay mud. There will also be a problem of traffic congestion aggravating the already existing problems on Highway 37.

10

The proposed development would burden the urban services of Vallejo, cut off the wildlife habitats of Napa Marshes and the Leslie Salt Pond and destroy productive agricultural land -- all to put people in expensive, unsafe housing.

11

12

Please, let's preserve this area with respect for its previous and present productivity. No more urbanization for the sake of convenience.

Sincerely,

David Londazuri  
912<sup>A</sup> YORK ST.  
San Francisco, CA  
94110

**LETTER #I-5**

9. Concern has been expressed regarding ability to predict seismic ground motions because the mud may be significantly deeper. The total thickness of bay mud underlying the Cullinan Ranch is known to be at least in the 90- to 110-foot range. While bedrock may be several hundred feet deep, the consolidated alluvium underlying the soft bay mud tends to behave more like rock than like mud in its ground motions. Therefore, the ground surface motions for the design earthquake can be predicted with relative accuracy.

The ground motion for sites underlain by soft bay deposits is of a large amplitude and low frequency; i.e., a swaying motion. The design and construction techniques to allow structures to resist this swaying ground motion are well developed and proven within the bay area and throughout California.<sup>1</sup> One- and two-story wood-frame structures supported on shallow, stiff foundation systems, such as planned for Cullinan Ranch development, are considered one of the safest types of foundations to resist earthquake ground motion.

The final soil investigation will provide the basis to adequately predict total and differential settlements, including the variations due to mud thickness and peat content for safe project design. The over-consolidation of the upper bay mud is known; the final soil investigation will provide specific consolidation characteristics for design of site elevations, underground utilities and buildings. Structures can be designed to resist differential settlement.<sup>2</sup>

10. Traffic impacts are summarized in Table III-6, page 88 of the Final EIR/EIS. As indicated in that table, the EIR/EIS acknowledges that certain streets and highways will experience significant congestion problems in the future. Even without the project, future (2005) traffic conditions will degrade to extreme congestion (service level E-F) along Route 37 from the project to I-80 (except over the Napa River Bridge), I-80 north of Route 37 and between Tennessee and Redwood, and Redwood Streets east of I-80. (Route 29 north of Route 37 would continue to experience heavy congestion.) With the proposed project, further degradation (to service level E-F) would occur on Route 37 over the Napa River Bridge, Wilson Avenue south of Route 37 and Sacramento Street between Route 37 and Redwood Street.

In response to identified impacts the Final EIR/EIS recommends extensive physical

improvements to the street network. These improvements would involve the following:

- widening of Route 37 to a four-lane divided arterial along the project frontage
- widening of Route 37 to a six-lane arterial between Wilson and Fairgrounds
- widening of Wilson Avenue to a four-lane arterial south of Route 37
- widening of Sacramento Street to a four-lane arterial between Route 37 and Redwood
- widening of Redwood Street to a four-lane arterial west of I-80 (the City is already constructing this improvement)

Since preparation of the Draft EIR/EIS, an improvement project has been proposed that would affect the recommended mitigation measures along Route 37. Caltrans is planning to improve and widen Route 37 from I-80 to the Napa River Bridge. The improved highway would initially be striped for four lanes with sufficient width to eventually be striped for six lanes. It may be a full freeway; this decision will be made by Caltrans during their planning process. Although planning for this project is at a preliminary stage, the project is included in the five-year State Transportation Improvement Program (STIP). While construction may be delayed beyond the five-year time frame, it appears that this project will be implemented along Route 37.

With the mitigation measures outlined in the Final EIR/EIS and the proposed improvement of Route 37 most of the area's street and highway peak-hour flows would be returned to service level D or better. Although congestion criteria are somewhat tenuous, it is generally acknowledged that urban peak-hour flows up to service level D are reasonable; during most of the day, flows would be service level C or better. The various street and highway improvements would not completely mitigate traffic flows on several street and highway segments. Redwood Street west of I-80 and I-80 north of Route 37 and between Tennessee and Redwood streets would remain at service level E-F during the peak hours. It is noted however that, of these remaining problems, only the Napa River Bridge congestion is directly attributable to the proposed project. The remaining congested segments reflect existing problems and/or problems arising from other cumulative development to the year 2005. The Cullinan Ranch project would account for 2%-4% of

the traffic along congested portions of I-80, and 8%-9% of the traffic along the congested portion of Redwood Street.

11. Comment noted. All of these concerns are discussed in the Final EIR/EIS. Section III K. of the Final EIR/EIS, Utilities and Services, recommends mitigation measures to avoid burdening the urban services of Vallejo; Section III.F. discusses the impacts on wildlife habitats; and Section III.E. discusses the safety of housing built on filled land.

12. Comment noted; this impact is identified in pages S-15, 49-50, and 149-150 of the Final EIR/EIS and response to comment 21.

---

<sup>1</sup> Applied Technology Council (ATC-3), Recommended Comprehensive Seismic Design Provisions for Building, 1977.

<sup>2</sup> Dennis H. Furby, CE 24480, Harding Lawson Associates, letter to W. R. Williams, Inc., August 26, 1983.

W2

24 June 1983

Dear Planning Commission,

A new threat looms over our North Bay parks, bay-shore accesses, wetlands and fisheries. This is the proposal for a massive development of 1550 acres, known as the Cullinan Ranch, on the shore of San Pablo Bay, just north of Highway 37 and south of Napa's marches and Leslie Salt Pond.

Vallejo is currently considering annexation of the ranch to enable the development of 4,500 dwellings, 1,700 boat-slips, 60 acres of restaurants, offices and shops.

This development would represent the first inroad of urbanization in the largest remaining area of agriculture and wildlife habitat in the entire San Francisco Bay area.

In addition to the "domino effect" of urban pressure on surrounding wildlife and agricultural lands, removal of this acreage from farm production would directly harm other agricultural operations that depend on local seeds and hay.

There is also a seismic hazard and structural instability of building on 50 to 90 feet deep, bay mud. There will also be a problem of traffic congestion, dangerously aggravating existing problems on Highway 37.

The proposed development would burden the urban services of Vallejo, cut off the wildlife habitats of Napa Marshes and the Leslie Salt Pond and destroy productive agricultural land — all to put people in expensive, unsafe housing.

Please, let's preserve this area with respect for it's previous and present productivity. No more urbanization for the sake of convenience.

Thank you for listening,

Nancy Magrin

*Nancy Magrin*

2601 Grant St.  
Berkeley, CA 94703

13  
14  
15  
16

**LETTER #I-6**

13. Please see Response 9.

14. See response to Comment 10.

15. Comment noted. Section III.K. of the Final EIR/EIS, Utilities and Services, recommends mitigation measures to avoid burdening the urban services of Vallejo. Section III.D. of the report discusses the loss of agricultural land. Section III.F. of the report discusses the impacts on the wildlife habitats of the Napa Marsh.

16. Comment noted; this impact is identified in pages S-15, 49-50, and 149-150 of the Final EIR/EIS and response to comment 21.

Phone call

7/11/83 CI-2

Edward Polff asked the following  
17a publication be circulated for the  
Cullinan Ranch ER:

17a "Earthquake Hazards and the  
SF Bay Area"  
by Carl Steinbrugger  
Institute of Governmental Relations  
U.C., Berkeley.

C1

A statement prepared for presentation to the Vallejo  
City Planning Commission hearing on the Cullinan Ranch  
Development Project, Vallejo City Hall, Vallejo Calif.

July 6, 1983

by

Everett I. Rolff  
407 El Camino Real  
Vallejo, California  
94590

1 of 4

Note to the Vallejo City Planning Commission, Vallejo, Ca.

Six generations of my family have resided in California; for the most part around San Francisco Bay. We have seen what continued encroachment of building on the shoreline and tidal marshes can do to the character of our beautiful bay. In my lifetime, the following have disappeared: Shellmound Park at El Cerrito, Neptune Beach at Alameda; South San Francisco Beach at Oyster Point; Paradise Cove in Marin County (also known as California City); Shady Beach in Vallejo; Mineral Spring Beach in Benicia; just to name a few. This is my concern about the ecology by the bay.

However, I'm now primarily concerned about the residual economic problems that might confront the tax payers of Vallejo; particularly those who are retired like myself---and there are 12,000 of us living in the Vallejo area.

Everett Rolff

2 of 4

Some considerations and questions regarding statements presented in the document entered before the Vallejo City Planning Commission titled:

"Beneficial impacts of the proposed Cullinan Ranch Development"

Item 2. "Project will provide increased recreational boating opportunities....."

17b

What contact has been made with Coast Guard, Mare Island Naval Shipyard, San Francisco Bay Model at Sausalito to obtain evaluations and recommendations?

Item 3. "Provision for school and park facilities...."

18

Who will pay for the land acquisition, development and construction of school and park lands, construction and equipping of facilities, utilities on-site and off-site?

"No existing facilities will be impacted by the addition of students from the project."

19

Note: Both Vallejo high schools are presently at capacity; even if they were not, how would project high school students get to existing high schools.

20

One plan locates the schools immediately adjacent Highway 37 which would submit them to highway noise and traffic.

The California State Division of <sup>School House Planning</sup> ~~Architecture~~ recommends that school buildings be located away from the flight pattern of all aircraft; the project is directly below the Napa Airport flight pattern.

Item 4. "Increased wildlife...."

21

What is economic impact of loss of present agricultural land? Does this mean more dairy hay will have to be imported from Nevada? Similar land in Sacramento Delta most productive.

22

"Widening and planting of levees in this area..."  
Who is to do the planting and maintain same?

Item 5. "Project will increase total water area...."

23  
What studies indicate that current silting will not continue or not be accelerated by project?  
Current San Francisco Bay Navigation charts are already obsolete because of annual silting taking place. Mare Island Channel must now be dredged every several years to maintain appropriate depth.

A study at the San Francisco Bay Area Model could confirm or validate the speculations made in the report.

Item 6. "Enhance existing water quality....."

24  
What objective evidence supports this statement?

25  
Is the rather enormous amount of fill required to be imported? If so, by what method and by which route?

Item 7. "Positive image....."

26  
Who will pay for and be responsible for the indicated landscaping, etc?

Item 8. "Net public revenues....."

27  
Developer provided these figures; who, separately and independently verified these rather interesting figures?

Item 9. "Project will pay all costs; streets, utilities, sewerage treatment facilities..."

28  
Who, specifically, in the project will pay these costs? Will developer pass these costs on to the school district, the park districts, the residents by way of a fee or assessment? What method will be utilized to insure the maintenance, repair, or replacement of levees, locks, dredging, landscaping, and other related costs? City water and sewerage treatment plants already at capacity?

Item 10. "Employment....."

No comment.

29  
Item 11. Project will assist in providing offsite and highway improvements."

How will the 'project' accomplish and finance such assistance. When will such assistance be accomplished? Does language "project" mean "developer" or, with initiation of project, the "residents"?

**LETTER #I-7**

17a. Comment noted.

17b. In preparing the Draft EIR/EIS, the San Francisco office of the U.S. Coast Guard was consulted concerning navigation aspects of the project. The person contacted was Mr. Ken Johnson.

In addition, representatives of the U.S. Coast Guard were sent copies of the Notice of Preparation on August 26, 1982 and attended a public scoping meeting on November 29, 1982.

The Mare Island Naval Station officials were also sent a copy of the Notice of Preparation, attended the scoping meeting, and attended and spoke at the Draft EIR/EIS public hearing and submitted written comments.

The Bay Model is a branch of the Corps of Engineers, San Francisco District, which is one of the lead agencies for the Final EIR/EIS. Subsequent contact with the Chief of the Bay Model indicated that the model is not capable of detecting changes associated with such a relatively small area (Sustar, pers. comm.).

18. The developer will pay for necessary on-site facilities such as water, sanitary sewer, gas and electric utilities. In terms of necessary off-site improvements to these utilities, the developer would pay for all but the following items, which would be shared by the developer and the respective service providers:

- Sewer - Upgrade and renovate the sanitary sewer interceptor on Wilson Avenue from Tennessee Street to Sears Point Road.
- Water Supply - Upgrade the existing trunk system.
- Electricity and Gas - Extend electrical transmission to the site and construct a new substation. Extend gas lines to the site and construct a gas regulator station.

In terms of parks and schools, determination of responsibility for costs of required off-site facilities requires further negotiation between the developer and the school district. The City of Vallejo does collect development fees to cover the costs of schools and parks. The

School Impact Mitigation Tax and the Park and Recreation Fee are usually collected at the time building permits are issued.

19. The commentor is correct that the senior high schools in Vallejo are at capacity. When alternative facilities are found, plans for student transportation will need to be formulated.

20. Comment noted. Potential noise impacts on the schools are discussed on pages 96 and 97 of the Final EIR/EIS. The developer has proposed relocating the school away from the flight paths of the Napa County Airport.

21. While the quantity of oat hay production lost due to the proposed Cullinan Ranch project would be relatively small it is part of a larger trend towards cumulative loss of haylands which could seriously impact North Bay Dairy operations. The dairy agricultural advisors for Marin and Sonoma Counties consider the North Bay Dairy Shed (Marin, Sonoma, Napa and Solano counties) to be an integrated regional economic unit, in which forage producers, dairies, and farm equipment and services providers rely on each other for markets and services. They also depend on the existence of a sufficient quantity of economic activity in these sectors which must be maintained for the economic health of the industry.

The principal forage for dairy cows is alfalfa hay, which is grown in the Central Valley and which has increased in cost to the dairies from \$80/ton to approximately \$135-145/ton over the past decade. Alfalfa is a water-intensive, chemical-intensive and energy-intensive crop, and agricultural advisors expect alfalfa prices to rise significantly in the future.

Sonoma County Dairy Advisor Dr. Richard Bennett has stated that in the face of these cost pressures, "Our ability to produce local forages is essential to the economic survival of local dairies." He cites as an example the very rapid price increases for imported alfalfa hay in the early 1970's due to energy costs and foreign grain sales: prices went from \$35 to \$90/ton in two years. Marin County farmers responded by increasing forage acreage from several hundred to several thousand within two years. Marin County Agricultural Advisor Don Brittsen believes that North Bay dairies must be able to substitute local forages for expensive imported forages in order to continue competing with Fresno dairymen who grow their own forages. He believes that as alfalfa prices

continue to rise local growers may harvest oat silage rather than oat hay. While oat hay is not a substitute for higher-protein alfalfa hay, oat silage can reduce alfalfa requirements for lactating cows. In some areas sewage effluent may be available to convert dry hay lands to double-cropped silage production.

22. The levees are currently maintained as a shared responsibility between the property owner and the State of California under the Cullinan Ranch Boundary and Exchange Agreement (see Appendix IV.F). If the proposed project were implemented, this responsibility would shift to a local reclamation or special assessment district which would be similar to a homeowner's association but would have policing power and the necessary water-related expertise (Neuhausen pers. comm.). This port authority or district would have responsibility for the planting of levees, maintenance dredging of waterways, and maintaining dredging of waterways, and maintaining interior slope banks. The outboard side of levees to the mean high water mark would remain in State of California ownership. If the levees are to provide public access and use (such as a public park), they would be offered to a public agency such as the California Department of Fish and Game; if accepted, the responsibility for levee planting and maintenance would come under State jurisdiction. For further discussion of the legal and financial aspects of creating a special district, see Appendix IV.C.

23. Studies by R. B. Krone and Associates/RMA on dredging indicate that sedimentation will occur in the project waterways at a rate of approximately 0.5 feet per year. A maintenance dredging program is proposed to mitigate this effect.

24. A discussion of water quality appears on pages 37 through 42 of the Final EIR/EIS. The physical effects referenced in this comment are treated in the discussions of tidal prisms, flushing, and flood gates for each alternative.

25. The total amount of fill needed for the proposed project (Alternative A) has been recalculated at 14.8 million cubic yards. About 6.8 million cubic yards would be imported since the entire amount is not available on-site (see calculations below).

<b>TOTAL FILL SOIL NEEDED:</b>	14,815,000 cubic yards (compacted in place)
<b>Material Available On-Site:</b>	
a) Main channel & marinas	11,601,500 cubic yards (uncompacted mud)
b) Interior side channels	2,549,500 cubic yards

	<u>(uncompacted mud)</u>
SUBTOTAL	17,651,000 cubic yards
LESS ESTIMATED PEAT MATERIAL	<u>1,725,000 cubic yards</u>
	15,926,000 cubic yards
	x .50
	<hr/>
50% ESTIMATED VOLUME AFTER DRYING & COMPACTION	7,963,000 cubic yards (compacted in place)
<u>Material Required Off-Site:</u>	
Total fill soil needed	14,815,000 cubic yards
	<u>-7,963,000 cubic yards</u>
	6,852,000 cubic yards (compacted in place)

The amount of fill soil material required from off-site would thereby be 6.8 million cubic yards rather than the 13.2 million cubic yards as originally reported. About 13 million cubic yards might be required if bay mud material were used due to the reduction in volume from drying and compaction. Bay mud material would not be used unless a source were available in close proximity to the property, such as the potential source of dredge spoil materials at Mare Island or from the Napa River.

The project sponsor is currently discussing the use of Mare Island or Napa River dredge spoils with the U.S. Army Corps of Engineers. The sponsor is also investigating several sources of land-based fill within seven miles of the project site.<sup>1</sup>

If these land-based fill sources were used, the total number of truckloads would be approximately 456,800. The amount of material and number of truckloads (149 daily) for Phase A would remain unchanged. Subsequent phases, Phases B through G, would amount to 362,055 cubic yards or 24,137 truckloads (155 daily) over a 30-week construction period each year.<sup>2</sup> Additional environmental assessment will probably be required for the ultimate fill source, and traffic and other impacts will be determined at that time.

The reduction in the total amount of fill needed is the result of the following changes in the project design.

- The main channel and marina areas will be deepened to a maximum -30 feet MLLW (mean lower low water) instead of -20 feet MLLW.
- The interior side channels will be deepened to elevation -20 feet MLLW instead

of -10 feet MLLW.

- The dredge disposal site will be excavated as a borrow site to a depth of -30 feet MLLW.
- Land areas with structures will be developed at an average elevation of +12.5 feet MLLW instead of +14.5 feet MLLW by incorporating raised building foundations.

26. The responsibility for providing and maintaining the buildings, open spaces, landscaping, etc. will be identified in the covenants, conditions and restrictions, zoning regulations for the property and/or future development agreements (see pages 76 and 77 of the Cullinan Ranch Specific Plan).

27. The fiscal analysis has been reviewed by the City of Vallejo, MacDonald & Associates and EIP Corporation.

28. The specific method of financing schools and parks has not been determined; further negotiations between the school and park districts are necessary. The developer has told the Vallejo Unified School District that he will provide the schools. Waterways maintenance could be achieved by creating either a local reclamation district or a special assessment district (see responses 1 and 22 and Appendix IV.C). In either case, the property owners within the project would be assessed for the cost of dredging and levee maintenance, etc. The cost of expanding the sewage treatment plant would need to be shared by the developer in proportion to the capacity required by the project.

29. The Final EIR/EIS has not attempted to identify specific responsibility for funding street and highway improvements in the project area. It is likely that such improvements would be accomplished through a combination of governmental funds (federal, state and local) and contribution by private developers. To the extent that the proposed project generates traffic, it is likely that the project sponsors would also contribute proportionally to the private portion of improvement financing. The proposed widening of Route 37 adjacent to the project site would occur on the project property and the developer would participate in the cost of such widening.

The details of improvement financing would be subject to further study by appropriate

agencies. Such study would be necessary to establish a methodology and schedule for improvement financing.

---

<sup>1</sup>Carl Neuhausen, W.R. Williams, Inc., telephone communication with EIP Corporation, January 16, 1984.

<sup>2</sup>Carl Neuhausen, W.R. Williams, Inc., letter to Assistant Planning Director, City of Vallejo, December 14, 1983.

Wr2

114 Combs Lane  
Vallejo, Ca. 94590  
July 5, 1983

Attn: Vallejo Planning Commission Members  
Comments on the Draft EIR/EIS for the Cullinan Ranch

As a Vallejo taxpayer for more than twenty years, I am most concerned about the adverse economic and social impacts to the current Vallejo residents and to the would-be homeowners on the proposed Cullinan Ranch project. Will ten thousand people, 4,500 dwellings and 1,700 boat slips on this historic diked baylands (now used as productive farm lands) improve the quality of life for the citizens in this priceless area???

30

Many potential costs to the Vallejo taxpayers appear excessive and only partially identified on the draft EIR/EIS. Will the present Vallejo taxpayers be required to provide services if the Cullinan Ranch is annexed? Will all taxpayers in special districts (such as GVRD and the Sanitation and Flood District) have to share the costs for this development???

31

Who will finance the proposed police/fire facility???

~~Will there be a Community Facilities District???~~

32

Will the city spell out specific assessments to finance street lighting???

33

Who will be responsible for all the maintenance cost of waterways and other maintenance problems???

34

Who will pay for the necessary schools?? When will they be built???

35

Will additional demands on the Vallejo water supply cause all taxpayers an additional burden???

36

Who will have to share the cost to put the utilities under the Napa River? Is a substation to pump gas and electricity technically and economically feasible???

37

Who will really pay for the additional traffic problems caused by this development???

*Cost per mile to build on wetlands??*

38

Will all present residents of Vallejo have higher sewer bills because of the Cullinan???

Isolation of Cullinan Ranch

Vallejo has a very proud history and works hard on image. Will the future residents of Cullinan really consider themselves to be residents of Vallejo or of a special place "Cullinan?" They will be isolated by the Napa River and Highway 37. The value of this wetland cannot be measured by a dollar sign.

*James Carter*

*James Carter*

**LETTER #1-8**

30. If Cullinan Ranch is annexed to Vallejo, then the City will provide general government services. The revised economic/fiscal analysis in the Final EIR/EIS indicates that revenues generated by the project would offset the cost of these services. The special districts serving the project may experience higher costs than at present, although it is not clear that all taxpayers within the district would be required to share these costs. The developer would be required to pay the capital costs, and special assessments may be levied on project residents (e.g., through a park maintenance district) to pay a major portion of the ongoing costs. All fees required of the developer or project residents will likely be set as conditions for project approval.

31. The City of Vallejo would pay for these facilities. City revenues generated by the project would cover these and other costs.

32. Under the Landscape and Lighting Act of 1972, a district may be formed to set assessments for maintenance of landscaping and lighting. Formation of such a district and specific assessments would likely be made a condition for project approval.

33. Either a local reclamation district or a special assessment district could be formed to facilitate project residents payment for waterway maintenance. See response to comment 1.

34. The developer will pay a school mitigation fee to the City at the time the building permits are issued. Schools will be built in phases as the project is developed. During Phase I when only houses are being built, children from the project will have to attend other Vallejo schools. However, eventually the project's schools will serve residents of the project.

35. It is unlikely that the City of Vallejo's costs for providing water service to the project would be substantial enough to require rate increases.

36. According to the Water Superintendent and Vallejo Sanitary Flood Control District (VSFCD), the water and sewer mains would need to be positioned on the Napa River Bridge rather than under the river. The costs of this would be shared by the developer and

the appropriate agency. The required utility substations are feasible and the costs would be shared by the developer and PG & E.

37. Improvements to Highway 37 on the Bay side would be funded by Caltrans. On the Highway 37 frontage adjacent to the project and all interior project streets would be funded by the developer. The City would need to make some improvements to adjacent City streets and might have to provide some matching funds for Highway 37 improvements.

38. The specific financial responsibility for increasing the capacity of the sewer treatment plant has not been determined, but it is likely that the developer would be required to pay a fair share of this cost, thus mitigating financial impacts to the citizens of Vallejo.

Submitted by: James H Gray  
731 Napa St  
Vallejo CA 94591

Questions on  
Cullinan Ranch Development  
Environmental Impact Report

1 of 2  
James H Gray 7/4/83

1. The number of borings drilled at this site may not be adequate to characterize the distribution of liquefiable soils at the site. The number of borings does not adequately characterize the distribution and variation of peat deposits at the site.
- 39
2. The description of the peat materials encountered in borings and the amount of compressibility testing performed on peat materials is inadequate.
- 40 Better definition of peat characteristics (and the variability of these characteristics) along with more compressibility test data will provide better quality estimates of the overall and differential settlements expected at this site and provide more data to correlate with the soils consultant's recommended test embankment settlement study.

- 41 3. The soils consultants' evaluation of the liquefaction potential at the site may be inadequate due to the inadequate number of borings drilled at the site.
- 42 4. The settlement analyses are inadequate, <sup>primarily</sup> due to the lack of data on peat compressibility. Peat is subject to significant secondary consolidation and some researchers consider peat to have third and fourth order compression characteristics. In addition, since housing may have actual lives longer than the 50 year period used in the settlement analysis, a longer period, say 100 years, should also be compared along with the "ultimate settlements" expected for this site.
- 43 5. The foundation requirements for the three schools proposed for this development should be discussed.
- 6.

**LETTER #1-9**

39. A frequently expressed concern is whether the current level of exploration and testing is sufficient to provide accurate site characterization. Field exploration and laboratory testing performed in 1981 was directed towards confirming anticipated soil conditions. This confirmation, combined with Harding Lawson Associates' (HLA) 25 years of experience with similar bay margin sites, is sufficient to provide a reasonably accurate characterization of the Cullinan Ranch site for purposes of preliminary planning.

Another expressed concern is that detailed evaluation for hazard mitigations should be performed prior to accepting the Final EIR/EIS. The purpose of preliminary investigation is to confirm anticipated soil conditions, define the geotechnical concerns, determine that suitable methods are available for proper design and construction, and assist the project sponsor in evaluating the economic feasibility of these measures. The proposed final soil investigation is to provide the specific soil engineering design parameters for the project, and it will occur as part of the City's tentative subdivision map approval process. The scope of the final soil investigation appears in the Geotechnical Appendix (IV.J.) of this Final EIR/EIS. Liquefiable soils and peat characteristics are discussed under Point 3, Geotechnical engineering items, of that Appendix.<sup>1</sup>

40. Please see Response 39.

41. Many of the commentators express concern about liquefaction. The phenomenon of liquefaction occurs in loose, cohesionless soils (sand) below the groundwater table in response to strong groundshaking. Bay mud is predominantly silt or clayey silt that is not subject to liquefaction. Isolated sand lenses that occur within the bay mud can be susceptible to liquefaction. However, the primary concern is not the actual liquefaction but the resultant ground surface effect. Typically, the sand lenses are at sufficient depth or contain sufficient amounts of silt/clay binder to preclude the risk of damage from liquefaction. Where loose sand layers occur near the surface, they will be removed, adequately densified, or sufficiently confined by the overlying compacted fill to preclude the risk of damaging ground surface effects for the completed development.<sup>1</sup> Soil engineering design parameters will form part of the proposed final soils investigations (See Point 3, Geotechnical engineering items, Appendix IV.J).

42. The final soil investigation will provide the basis to adequately predict total and differential settlements, including the variations due to mud thickness and peat content for safe project design.

Excavated bay mud has been successfully used as compacted fill, even with peat, provided it is dried to a suitable moisture content. As a construction expediency, a cap of select fill is usually recommended to provide a better working surface, but this is not always necessary. The amount of consolidation and post-construction settlement resulting from bay mud fill will depend on the amount of drying and compaction specified. Within the limits of good engineering and construction, this additional consolidation will be insignificant compared to the consolidation of underlying natural bay mud. The potential small magnitude of differential settlement within a building area resulting from either fill consolidation or the remaining isolated zones of peat is easily mitigated with proper foundation design.

Settlements resulting from consolidation of natural bay mud, fill and peat are predictable within normal foundation design tolerances. Differential settlements resulting from variations in bay mud thickness will be gradual over relatively large distances; this will also be predictable with a limited number of additional test borings within specific development areas. These total and differential settlement determinations will then be used in designing surface drainage and underground utilities. Differential settlement will be negligible over the relatively small area of a typical residential structure, and will be mitigated through foundations designed to withstand this settlement.<sup>1</sup>

43. The California Education Code requires that geological and soil engineering studies be conducted on all new school sites (Section 15002.1) and that public schools be designed for the protection of life and property (Sections 15451 through 15466, Field Act). These provisions are recognized in the City of Vallejo Seismic Safety Element and would be required as part of the normal approval process. Foundation design is covered by the Field Act.

---

<sup>1</sup>Dennis H. Furby, CE 24480, Harding Lawson Associates, letter to W. R. Williams, Inc., August 26, 1983.

June 27, 1983

Planning Commission  
Vallejo, California

Dear Commissioners:

These comments address the Draft EIR/EIS for the proposed Cullinan Ranch Development scheduled to be heard on July 6, 1983.

While there are many sections of the EIR/EIS that provide good information, there are a number of inadequacies which I will present in a list format.

- 44 1. There is almost no consideration of the impacts of the project on the Federal Wildlife Refuge, on which large expenditures of money have been made. In fact, there is not even a map showing the existence of the refuge and its relationship to the project.
- 45 a. How will the project affect the Wildlife Refuge?
- 46 b. How will the project affect the movement of wildlife from the Napa River waterways and marshes across to San Pablo Bay?
- 47 c. What are the holdings of Fish and Game in the Napa River near and adjacent to the proposed project?
- 48 d. How will the presence of so many residences and people affect the Pacific Flyway? The project site is in the center of critical marsh/waterway habitat for waterfowl.
- 49 e. There is no consideration of the ripple effect if this large parcel on the northern border of San Pablo Bay is developed. What is likely to happen to adjacent parcels to the west?

50

2. What will the effect of the project be on the fishery in the Napa River and in San Pablo Bay? The net income to the State of California from its sports fishery is very large.

51  
52

a. How will the project affect the striped bass nursery in the adjacent Napa marshes?

b. What will the effect be on the Dungeness crabs?

53

c. What will happen in the proposed marina? Will the water be saline or fresh, and what will the impact be on the fishery and the vegetation?

54

d. How will the pollutants from the potentially hundreds of boats affect the marshes and hence the fishery?

55  
56

3. What will be the effect on the waterfowl of so many boats having access to the Napa marshes? And what will the effect be of oil and other pollutants from the boats?

57

4. It is not clear where the fill for the project will come from or how it will get to the project. Will it be through Vallejo? Napa? Sonoma? Marin? Thirteen million cubic yards will require many truckloads.

58

59

5. Will the developer be bonded for liabilities such as unanticipated amounts of sedimentation (requiring dredging), unpredicted differential settlement, maintenance and repair of levees and roadways, sewer lines and additional treatment capacity?

60

6. Can the city take on such additional burdens as schools, sewer treatment, roadway improvement without help from the state?

In summary, I feel the EIR/EIS fails to discuss regional impacts which are estimated to be very great indeed, and fails to disclose the real fiscal impact of the project on the current residents of the City of Vallejo. It also fails to pin down exactly what costs the developer would be responsible for and what the city would have to pick up by default.

Sincerely,



Phyllis Faber  
212 Del Casa  
Mill Valley, CA 94941

PF/sp

**LETTER #I-10**

44. A map showing the boundaries of the Cullinan Ranch site, San Pablo Bay National Wildlife Refuge, and Napa Marsh State Wildlife Area is included in the Final EIR/EIS as Exhibit III.1.a. and III.1.b. For a discussion of the impacts on the wildlife refuge see response to comment 45.

45. The San Pablo Bay National Wildlife Refuge provides habitat for thousands of wintering waterfowl and other water-associated birds. During the yearlong biological resources study of the Cullinan Ranch area conducted by Harvey & Stanley Associates (1983), the majority of canvasback and other wintering waterfowl were observed to rest in the waters of San Pablo Bay, secondarily on some of the salt ponds, and thirdly, on the waters of the Napa River. The shallow waters of North San Pablo Bay, including the Refuge, were the preferred resting area during the approach of several incoming storms. On one occasion just hours before a major storm, 22,000 ducks rafted up in the North Bay (Harvey & Stanley Associates 1983).

An increase in boat traffic in San Pablo Bay as the result of the proposed project could be disruptive to wintering waterfowl and other birds. Some protection of the birds is afforded by the shallow waters of the northern part of the bay which limits many boats from entry except at the highest tides. The birds are also afforded some additional protection because the waters are part of the National Wildlife Refuge, and harassment of wildlife is forbidden in the Refuge. Enforcement of this protection, however, is limited. If fishing in San Pablo Bay increases due to the proposed project, birds resting on the Bay could be disturbed by the presence of humans even though no overt harassment or threatening behavior may take place. The distance from a human being that will prompt a bird to move away or take flight depends on the human activity, the species of bird, and the individual bird's habituation to human activities related to the project. The magnitude of the disturbance is unknown and its significance to the Refuge as a whole cannot be projected.

Other impacts on the Refuge may occur, but are not known at this time.

46. There are likely to be changes in the patterns of bird movement between San Pablo Bay and the Napa Marsh due to the proposed development. The presence of man-made

structures over a 1,500-acre area may cause changes in the flight patterns of some avian species. Several observers have noted that certain avian species tend to follow open water routes from one resting/feeding site to another, while other species do not seem to alter flight paths to avoid flying over man-made structures (Wetland Evaluation Class 1981).

Based on a literature search of avian mortalities at man-made structures (U.S. Fish and Wildlife Service 1980), Harvey & Stanley Associates (1983) concluded that increased mortality of birds due to collisions with buildings on the project site or with boats would not be significant. The canvasback, which winters in large numbers in North San Pablo Bay, is of particular concern because its flights are low and fast. There is little in the literature, however, to indicate that the canvasback would be particularly susceptible to collisions.

Increased collisions for all bird species occur during periods of reduced visibility. Birds collide with objects that are not readily seen, such as wires strung across their flight path; objects that deceive by reflecting an unobstructed flight path (windows); or, by structures that act as attractive stimuli and then disorient and confuse birds on overcast or foggy nights (lighted radio and television towers) (Jaroslow 1979).

The possibility that birds will occasionally collide with a structure (e.g., building, wire, or boat mast) on the project site is likely even though it may not represent a significant cause of mortality. The likelihood may be slightly higher in the North Bay Area because the project site is situated between two high use areas, the Napa Marsh and San Pablo Bay.

It has been mentioned that modifying flight patterns to avoid the Cullinan Ranch site would require additional energy expenditure by birds. It is unlikely that there would be additional mortality associated with this energy expenditure.

47. The major land holdings of the DFG in the vicinity of the Cullinan Ranch site include: a portion of Fagan Slough (292 acres) in northeastern Napa Marsh near the Napa Airport; 339 acres north of the Leslie Salt Ponds at Huichica Creek; 38 acres of White Slough, on the Napa River side of Vallejo; and 19.68 acres of marsh on Sandpiper Point (formerly Slaughterhouse Point), up-stream along the Napa River toward American Canyon Road (Sarrow pers. comm.). The DFG also has 66-year leases for the management

of the Napa River and San Pablo Bay State Wildlife Area on the Petaluma River (Swanson pers comm.)

The California Department of Fish and Game (DFG) has responsibility for managing the hunting and fishing easements along Dutchman and South Sloughs. The DFG controls all public access along these sloughs and maintains two parking lots along Dutchman Slough. The DFG has a lease program (for waterfowl hunting) with the Leslie Salt Company in several of their salt ponds; hunting on selected ponds is negotiated with the landowner annually.

Much of the Napa Marsh is subject to uncertainties of ownership due to the existence of historic tide and submerged lands within the marsh. The largest single landowner of record is Leslie Salt. Leslie claims 10,906 acres, 23.5 percent of the entire area (Madrone Associates 1977). Those lands made accessible in cooperative agreement with Leslie Salt Company have been established by the DFG as a State Wildlife Area.

48. The Cullinan Ranch lies between two ecologically important areas, the San Francisco Bay (and the marshes and mudflats of the San Pablo Bay National Wildlife Refuge) to the south and the Napa Marsh and Leslie Salt Ponds to the north. These areas support substantial populations of waterfowl and shorebirds, particularly in the winter months. The North Bay and Napa Marsh are the main wintering grounds along the Pacific Flyway for the cavasback; over 12,000 individuals have been counted at one time in the marsh (Madrone Associates 1977). Other species that winter in high numbers in this area include greater and lesser scaup, ruddy duck, and bufflehead.

It is difficult to predict what effect the proposed project will have on birds using the Pacific Flyway. The project will constitute an island of development in the center of a relatively undisturbed area. Millions of birds migrating from northern latitudes such as Canada and Alaska seek refuge in the San Francisco Bay/Napa Marsh vicinity. Birds now can fly directly from the Napa Marsh and salt ponds to San Pablo Bay passing over only agricultural land (Cullinan Ranch site) and Highway 37. Currently, the project site receives limited use by waterfowl and shorebirds during the winter months due to a lack of long-term seasonal ponding, although the site is used by large numbers of flocking granivorous and insectivorous birds. If the project were implemented waterfowl and shorebirds would continue to use the Napa Marsh, salt ponds, and San Pablo Bay but their flight patterns may change due to the proposed development. As indicated in response to

comment 46, some species will take a direct route over development, while others may detour to avoid passing over development. Waterfowl and shorebirds have been observed to show preference for open water routes. Other potential impacts to Pacific Flyway bird species may result from increased boat traffic, increased fishing, harassment by domestic animals, and a reduction of water quality in the sloughs.

49. Much of the Napa Marsh land is subject to uncertainties of ownership due to the existence of historic tide and submerged lands within the marsh. Sovereign public title to the tidal and submerged lands within the marsh was acquired by California upon admission to the Union and is still under the jurisdiction of the State Lands Commission. Depending on the specific parcel, the state interest in Napa Marsh lands is either a fee interest, or limited to the public trust, with private ownership of an underlying fee.

The private landholdings west of the Cullinan Ranch site have clouded titles. Until these titles are cleared, no development of these parcels is likely. (See comment 144).

If the Cullinan Ranch site is developed, there may be increased pressure on surrounding landowners, including the Leslie Salt Company (the largest single landowner), to obtain title clearance and develop their lands. In the South Bay, as land has become more valuable, Leslie Salt has discontinued use of some of their salt ponds and is tending toward development of these lands.

The Mare Island Naval Reservation could not be opened for development now, but if the area were to be declared surplus by the government at some future time, there may be strong pressure to develop the Reservation. If government lands were declared surplus the Cullinan Ranch development would have set a precedent for development in the North San Pablo Bay/Napa Marsh area.

For a discussion of additional constraints on development in the Napa Marsh see response to comment 144.

50. Runs of striped bass, sturgeon, steelhead, and starry flounder are present in the Napa River system along with forage fishes such as shad and sculpin. The Napa River is an anadromous fish migratory route, and the river system is an important nursery area for juvenile steelhead and striped bass (Madrone Associates 1977). The Napa River itself provides approximately 5 miles of nursery habitat with an additional 30 miles in the

tributaries. The impacts of the proposed development on the fishery in the Napa River and San Pablo Bay are not known at this time. Since no dredging of these areas will occur, the bottom-dwelling organisms will not be disturbed. As long as adequate tidal circulation is maintained in the project waters, water quality is not expected to decrease. (See responses to comments 194 and 195, and Section III.C. of the Final EIR/EIS.) If adequate tidal circulation is not maintained, several other factors could affect the fishery. These include changes in water temperature, dissolved oxygen, total dissolved solids, toxic materials (pesticides, herbicides), and salinity. Aside from direct fish kills, a reduction in water quality, however, could have long-term impacts on the fishery resource. A water quality change that kills no fish directly may: 1) cause changes in the response of young and adult striped bass to environmental stimuli controlling migration; 2) reduce the ability of fish to resist disease; 3) reduce the ability of fish to locate and capture food; 4) reduce the ability of juvenile fish to escape predators; and 5) reduce the food resources available, especially to higher trophic level fish (Kelley 1966). This is a worst case analysis.

51. The Napa Marsh and associated sloughs support large numbers of juvenile striped bass, especially in high runoff years, when there are high flows in the sloughs. The project could have several adverse impacts on striped bass and their habitat resulting from changes in water velocity, and/or salinity and dredging within the project. The salinity of water in the slough system reflects that in the Napa River and is not expected to vary significantly, except for very short periods during storms. (See responses to comments 194 and 195.)

Increased water velocities in Dutchman Slough may reduce the populations of plankton or other food organisms of juvenile striped bass. An increase in flow rate also may increase erosion which may, in turn, reduce the attractiveness of the slough habitat to striped bass.

Changes in salinity also could impact the food resources. An increase in salinity and increase in the tidal prism would reduce the abundance of certain shrimp (e.g., Neomysis) and crustaceans which are preferred food items of juvenile striped bass; these organisms cannot tolerate high salinity (see responses to comments 194 and 195).

Changes in water quality are also discussed in response to comments 53, 54, and 106.

52. San Pablo Bay, the Napa River, Sonoma Creek, and the major sloughs of the Napa

Marsh provide nursery areas for dungeness crabs (Madrone Associates 1977, Tasto pers. comm.). Use of these areas may vary considerably from year to year with fluctuations in juvenile populations. Dungeness crab distribution changes seasonally and annually according to salinity. Crabs are swept into San Pablo Bay on bottom currents; the San Pablo Bay area contains the largest populations of Dungeness crabs. Juveniles appear about May and remain in the Bay estuarine system through February or until the freshwater discharges exceed the crabs' tolerance level.

Salinity is not expected to change due to the proposed project (see responses 194 and 195). However, if salinity changes do occur, Dungeness crab habitat would be affected, assuming any habitat currently exists. Maintenance dredging of any areas utilized by crabs would cause either loss of individuals or loss of habitat, depending on the time of year dredging occurred. No dredging is planned for the sloughs or the Napa River. Maintained channels and maintained basins generally do not support large Dungeness crab populations. If dredging occurred during the spring (March-April), it would reduce the attractiveness of the habitat for juvenile crabs arriving in May. In a maintenance dredging program, such as that proposed, there is little time for the benthic infauna to reestablish and become productive, before it is time to dredge again (Tasto pers. comm.).

53. As long as there is adequate tidal circulation (as predicted by RMA/Krone), the water in the marina will be saline with about the same characteristics as the water in the adjacent sloughs and Napa River. If this is the case, there would be no specific impact of the project on the fishery or the vegetation. For further information see the Water Quality section of the Final EIR/EIS (Pages 37-42). For a discussion of impacts from boat traffic see the Marina Design and Function Section of the Final EIR/EIS, page 29. Also see responses to comments 194 and 195.

54. The introduction of 1,700 to 2,200 boats where very few currently exist creates the potential for spills or discharge of petroleum products as well as detergents and anti-fouling agents (California Department of Fish and Game, Carper, pers. comm.). Regular and seasonal maintenance of boats involves washing, draining bilge water, sanding, and painting. All of these activities have potentially adverse effects on fish and aquatic life.

Copper is the most common heavy metal used in anti-fouling paints and is found in high levels in sea water, sediments, and fouling communities in marinas (Nixon et al., 1973, Young 1974, 1975 in California Department of Fish and Game, Carper, pers. comm.).

The Office of Coastal Zone Management (1976) suggested that manufacturers need to develop and market less toxic alternatives to copper-based anti-fouling paints. Until such time, the toxic effect of copper will continue to impair marina water and sediment quality. See also response 179, page 170.

The presence of a large number of boats creates exhaust stirring and wave action as well as the potential for water contamination by fuel and sewage. All can lead to a reduction of water quality. Degradation of water quality from upstream nonpoint sources is a steadily increasing problem in the Napa Marsh (Madrone Associates 1977). See response to comments 50, 194 and 195.

Potential water quality problems can be prevented through regular flushing of the proposed development by controlled tidal action, and through a regular monitoring program.

55. The potential intrusion of large numbers of boats into the sloughs, particularly during the breeding season, could be highly disruptive to the birds of the Napa Marsh. Clapper rails, black rails, and other secretive birds may be disturbed by the increased boat traffic, especially during nesting. The use of sloughs for water skiing and other related activities which would involve multiple trips would increase the likelihood of disruption of nesting activity and potential erosion of slough banks.

Waterfowl are abundant during the winter months in the Napa Marsh. Additional boat traffic along the Napa River and adjoining sloughs would constitute a disturbance to waterfowl, especially on weekends and holidays when boat traffic would be at its peak. The increased human and boating activity may result in increased hunting pressure as well as increased harassment of birds. If disturbances were created, waterfowl may seek refuge in the shallow waters of North San Pablo Bay or in more remote areas of the Napa Marsh. It may be necessary to prohibit boats from entering sensitive wildlife areas, especially during nesting season. Controlling access on a permit basis might also be possible. The imposition of a 5 mph speed limit in the smaller sloughs should be recommended to help reduce potential disruption of wildlife and minimize bank erosion.

56. See response to comment 54.

Discharge of small amounts of oil from the boats could result in a thin oily film on the water surface. Boats utilizing the type of facility proposed would use the lighter fractions of oil (i.e., gas or diesel), which evaporates quickly. Tidal flushing should be sufficient to permit a thorough mixing of the water in the marina. Mixing of the water should prevent any type of buildup that might adversely affect waterfowl.

57. Several options of obtaining fill soil material are under consideration, including trucking from off-site locations and the possibility piping such material hydraulically to the property from nearby dredge maintenance operations. Various sites that would require the trucking of material to the property are being examined at the present time. All are within a six to seven mile radius of the property and accessible via Route 37 from the north and via Route 29 to Route 37 and then westerly to the property. The following information considers a "worst case" situation wherein all fill soil material would be transported by truck from off-site the property.

It is now estimated that 6.8 million cubic yards of imported fill soil material will be required by the proposed project for Cullinan Ranch. Assuming that the capacity of trucks to be used would be 15 cubic yards per truck, a total of 456,800 truck loads of import material would be required over the lifetime of the project - a 15 to 20 year period. The amount of import material needed during the first phase of the project (Phase A) would be 335,000 cubic yards or 22,333 truck loads over a 30-week construction period within the course of one year. In subsequent phases (Phases B through G) the amount of import material would be 362,055 cubic yards or 24,237 truck loads over a 30-week construction period each year.

Assuming further that construction activity would involve a work period of eight hours per day, five days per week, the amount of truck loads generated on a daily basis would be 149 for Phase A and 155 for Phases B through G. While the number of trucks would be insignificant in terms of total daily traffic volumes potentially such numbers could pose significant negative impacts in terms of noise, traffic safety, peak hour congestion and appearance.

As mentioned previously, the routes over which such truck traffic is likely to occur would include Route 37 and/or Route 29 south to Route 37 and then westerly to the property. Uses adjoining these routes are primarily non-residential and include no critical use facilities such as schools, parks, hospitals, etc. where truck traffic would pose significant

safety hazards. The residential uses near the intersection of Sacramento Street and Route 37 would be most affected by project truck traffic.

The intermix of project truck traffic with other existing and future traffic over these same routes could pose additional traffic safety hazards or congestion, especially during peak traffic periods. Most critical would be the potential intermix of project truck traffic with traffic entering and exiting Mare Island at the Walnut Avenue interchange during peak periods.

The following mitigation measures are suggested in the event that significant quantities of fill soil material must be transported by truck from off-site the property.

- Minimize the distance to site of import fill soil material. Attempt to utilize soil materials, if available, from nearby dredge maintenance operations.
- Limit transportation routes to those with the least impact on adjacent land uses. Generally avoid routes in the proximity of residential or critical use facilities (i.e., schools, hospitals, playgrounds, etc.).
- Restrict project truck traffic to off-peak traffic periods by hours and/or direction. Specifically, avoid peak traffic periods of employee arrival and departure at Mare Island.
- Consider establishing a special access route to Route 37 for project truck traffic, to avoid using the Walnut Avenue ramps. (This measure is suggested on the assumption that truck traffic travelling in an easterly direction would otherwise have to utilize the existing overpass.)
- Provide precautionary signing, signals and/or roadway improvements to minimize traffic hazards.
- Take various measures to minimize potential impacts related to dust, debris, etc. from trucks enroute to the property.

58. Please see Response 25.

59. The City of Vallejo has not determined whether it will require the developer to be bonded for liabilities described in the comment.

60. Costs to make necessary improvements to the school system and roadway system may require state funding assistance. In the case of schools, the availability of the

required assistance has not been established. However, the developer will be required to pay school mitigation fees to the City at the time building permits are issued. Currently these fees are, in the case of a three-bedroom single-family home, \$1,350 per unit. The developer has also told the Vallejo Unified School District Board that he will pay for the needed school facilities. Improvements to Highway 37, however, have been included in the Caltrans 5-year plan. Improvements for sewer treatment may also require state assistance if this is available. The Final EIR/EIS, Section III.L. Economic/Fiscal, states that the City may delay project approval if wastewater treatment financing cannot be obtained.

SALEM J. RICE, GEOLOGIST

433 LOVELL AVENUE  
MILL VALLEY, CALIFORNIA 94941  
PHONE (415) 388-5307

21

July 5, 1983

Planning Commission  
City of Vallejo  
P.O. Box 3068  
Vallejo, CA 94590

Re: Cullinan Ranch Draft Environmental  
Impact Report and Statement

Dear Members of the Planning Commission:

As a geologist working for the State of California (but retired from State service since March 1983), I have studied the characteristics of San Francisco Bay mud and the history of developments of fill placed on it. The object of these studies was to evaluate the geotechnical hazards to residential and other developments on bay mud in Marin County, part of a broader study of all geologic hazards in the county. I am appending to this letter sections on bay mud from one of the resulting reports, for these are as pertinent to the Cullinan Ranch site as to those in Marin County. It is with this background that I have reviewed the Draft EIR/EIS and make the following comments on the geotechnical aspects of that report.

61  
Although the Draft EIR/EIS discusses or mentions most or all of the known geotechnical problems of the site, these are treated in a nearly benign style. The discussion is not adequate to give a picture of the very long term nature of these problems and of their progressive and costly deleterious influence on many bay mud developments, where they have left a legacy of recurrent flooding and deteriorating structures. Instead, the report implies that further study and engineering analysis will solve all problems, an assumption that has little meaning in practical and economical reality.

To my knowledge, there is no more unstable setting for urban development than fill on bay mud. The mud has

Planning Commission  
July 5, 1983  
Page 2

62  
been described by knowledgeable engineers as "semi-viscous material similar to jelly which can easily change its geometric configuration" (Lee and Praszker, 1969, page 47). Thus it is inherently unstable. Fill placed on it settles as a result of compression and lateral flow of the mud, a process that continues for 100 years or more where the mud thickness is great such as at the Cullinan Ranch. Engineering proposals for accelerating settlement of the fill (Draft EIR/EIS, page 55) are largely theoretical and very expensive. For example, one suggested method would require about 384,000 vertical drains for the 568 acres of proposed residential development alone.

Indeed, predictions of long range settlement rates and amounts are theoretical and not necessarily conservative. Resurveys of levelling monuments established in Marin County bay fill developments indicate continuing settlement at rates higher than predicted, a condition that accounts for the recurrent flooding in them (see page 19 of the addendum to this letter).

63  
The proposed development is based on gross projections of very widely-spaced bore hole data. In my judgment, uncertainties (practical, not technical) regarding the response of fill on the mud underlying the site will not be resolved by more drilling, but will gradually be revealed over the decades ahead if the project goes forward. The Draft EIR/EIS should include this as a significant probability.

In summary, I do not think the Draft adequately covers the probable/potential costs and environmental impacts of the proposed development either for this or succeeding generations. On the basis of my studies of similar bay fill developments, I urge you to reject Alternatives A, B, and C of the report.

Sincerely,



Salem J. Rice  
California Geologist  
License #2475

**LETTER #I-11**

61. Please see Response 39.

62. The engineered acceleration of settlement through such practices as vertical draining or surcharging are proven techniques which have been used in various locations in the Bay area (Redwood City, Foster City, Bel Marin Keys). The suggestion that the entire property be provided with 384,000 vertical drains is impractical, particularly when it is recognized that most structures (one- and two-story wood-frame buildings) would be designed to reduce or eliminate the effects of differential settlement. Sites for large commercial structures to be used in later phases could be surcharged during Phase A grading operations and allowed to settle for 18 to 24 months prior to construction.<sup>1</sup>

63. Please see Response 42.

---

<sup>1</sup>Carl Neuhausen, W. R. Williams, Inc., telephone communication with EIP Corporation, January 16, 1984.

(Note: Included as addendum to Mr. Rice's letter)

GEOLOGY FOR PLANNING  
CENTRAL AND SOUTHEASTERN MARIN COUNTY, CALIFORNIA

by

Salem J. Rice

Theodore C. Smith

and

Rudolph G. Strand

1976

CALIFORNIA DIVISION OF MINES AND GEOLOGY  
Resources Building, Room 1341  
1416 Ninth Street, Sacramento 95814

Prepared in cooperation with the County of Marin and the Cities and  
Towns of Belvedere, Corte Madera, Fairfax, Ross, San Anselmo, San  
Rafael, Sausalito and Tiburon.

State of California  
EDMUND G. BROWN JR., GOVERNOR

Department of Conservation  
LEWIS A. MORAN, DIRECTOR

The Resources Agency  
CLAIRE T. DEDRICK, SECRETARY

Division of Mines and Geology  
THOMAS E. GAY JR., STATE GEOLOGIST

## CONCLUSIONS AND RECOMMENDATIONS

### General Considerations

The complex geologic environment of central and southeastern Marin poses significant geologic hazards in places. Many, but not all, of these hazards can be mitigated with appropriate use of engineering geology in planning and development for land use. Therefore, it is recommended that:

1. All provisions of Chapter 70 of the Uniform Building Code be adopted as a minimum requirement for land use development.
2. In order to aid the cities and county in the creation and proper implementation of the recommended regulations, the cities and county should augment their staffs with appropriate technically trained geologists and engineers, perhaps on a cooperative basis.

### Marshlands and Mudflats

It should be recognized, for reasons widely documented and discussed in the technical literature and summarized in this report, that, from the standpoint of geologic hazards, residential development within the area of the marshlands and mud flats of San Francisco Bay can create a very high potential risk to the local human environment. Even under the static influence of gravity, fills placed on thick, compressible, soft bay mud are generally unstable for many decades. These bay deposits gradually consolidate under the load and gradual, but often differential, settlement occurs. Such fills are particularly unstable and susceptible to settlement and disruption under the influence of great earthquake vibrations that should be anticipated in this region. In short, these are among the most hazardous sites for the location of structures and utilities.

In the light of our accumulated knowledge as to the unstable nature of bay mud, and because of man's apparent inability to stabilize thick deposits of it by practical or economical engineering means, residential developments on fill may not be a fitting use for the bay plains and marshlands.

## STABILITY CHARACTERISTICS OF THE LAND

The eastern, partly urbanized portion of Marin County has two contrasting topographic settings that define sharply contrasting geologic conditions and stability problems. The rather steep to very steep hills and ridges are underlain by ancient bedrock many tens of millions of years old. They are part of an upland that has been partly buried by soft bay mud deposited within the last 10,000 years as sea level rose approximately 300 feet to flood the valley now occupied by San Francisco Bay. The surface of the bay mud comprises the flat marshlands, bay plains, and mud flats that contrast so sharply in appearance with the steep upland slopes that rise abruptly from them in many places.

These settings present different types of stability characteristics under both static and seismic influences. In many places the hills and ridges are relatively stable under natural conditions, with competent bedrock within a few feet of the surface. In other places, however, these upland slopes are mantled with landslide deposits which indicate areas where soil and underlying bedrock materials are too weak to resist the influence of gravity under prevailing slope conditions.

In the marshlands and bay plains areas, the underlying soft bay mud is inherently unstable, being so weak and mobile that it compresses and flows under the weight of any fill placed upon it.

Strong earthquakes generally accelerate and accentuate all of the stability problems created by the force of gravity alone, but also introduce additional hazards to the human environment.

### Stability of Fill Developments on Bay Mud

Developments on fill placed upon the marshlands and mud flats of San Francisco Bay are susceptible to several severe types of stability problems. Such developments in Marin County have been the cause of great distress to individual citizens and great public expense for many years, primarily because of continuing subsidence of fills that results in intermittent flooding of residential neighborhoods and because of differential settlement of fills in places that disrupts structures, utilities, and roadways.

The flooding and a small percentage of structural damage receives newspaper publicity; but the great cost to the general public of flood control work for these developments is not generally known to the public, nor are many people aware of the structural damage caused by differential settlement in many places.

As discussed later in more detail, the bay mud that underlies the marshlands and mud flats (and many existing developments on fills placed upon such lands) is an unconsolidated, jelly-like material that is both highly compressible and subject to lateral flow when loads are placed on it.

Some appreciation of the problems related to instability of the bay mud environment can be gained by consulting graphs that show computed amounts of settlement and rates of settlement for different thicknesses of fill placed on different thicknesses of typical soft bay mud (see figures 2 and 3). For example, 10 feet of fill placed on bay mud that is 50 feet thick ultimately can be expected to settle approximately 4.5 feet as a result of compaction of the underlying mud. It will require some 12 years for half of this settlement to take place, but a total of about 200 years for the total settlement to occur. In contrast, 10 feet of fill placed on bay mud that is 25 feet thick can be expected to settle a total of about 3 feet, half of which will have taken place in a little more than one year, the rest within about 20 years. Thus it is in fill developments on thick deposits of bay mud, thicker than about 25 feet, and especially on deposits of highly variable thickness, that major problems of settlement develop.

The settlement of fill on bay mud is well exhibited in Sausalito in a portion of the World War II shipyard development adjacent to Bridgeway and Harbor Drive, across Harbor Drive from the Big G Market parking lot. In about 1940, clusters of pilings were driven through fill and underlying bay mud to help support a huge warehouse-like subassembly building and a concrete pad that served as its floor. The building has been removed, and the partially collapsed floor displays the amount of settlement that has taken place. Deep pilings are generally relatively stable in bay mud, and the small pads of concrete directly supported on the clusters of pilings now stand about 3 feet above the unsupported concrete surfaces that have settled with the fill. In places large broken portions of slabs are tilted up to their anchors on the pilings.

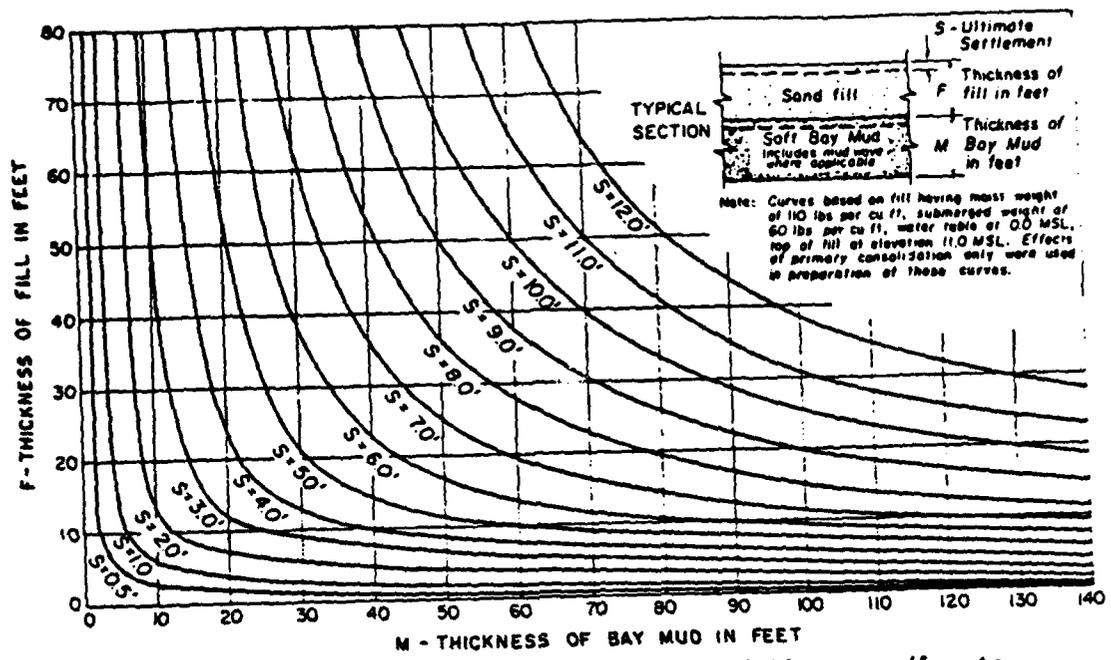


Figure 2. Ultimate amount of settlement of fills according to thickness of fill and thickness of underlying bay mud. Source: Adapted from U.S. Army, Corps of Engineers, Comprehensive survey of San Francisco Bay and tributaries, March, 1963, Appendix E, figure 23.

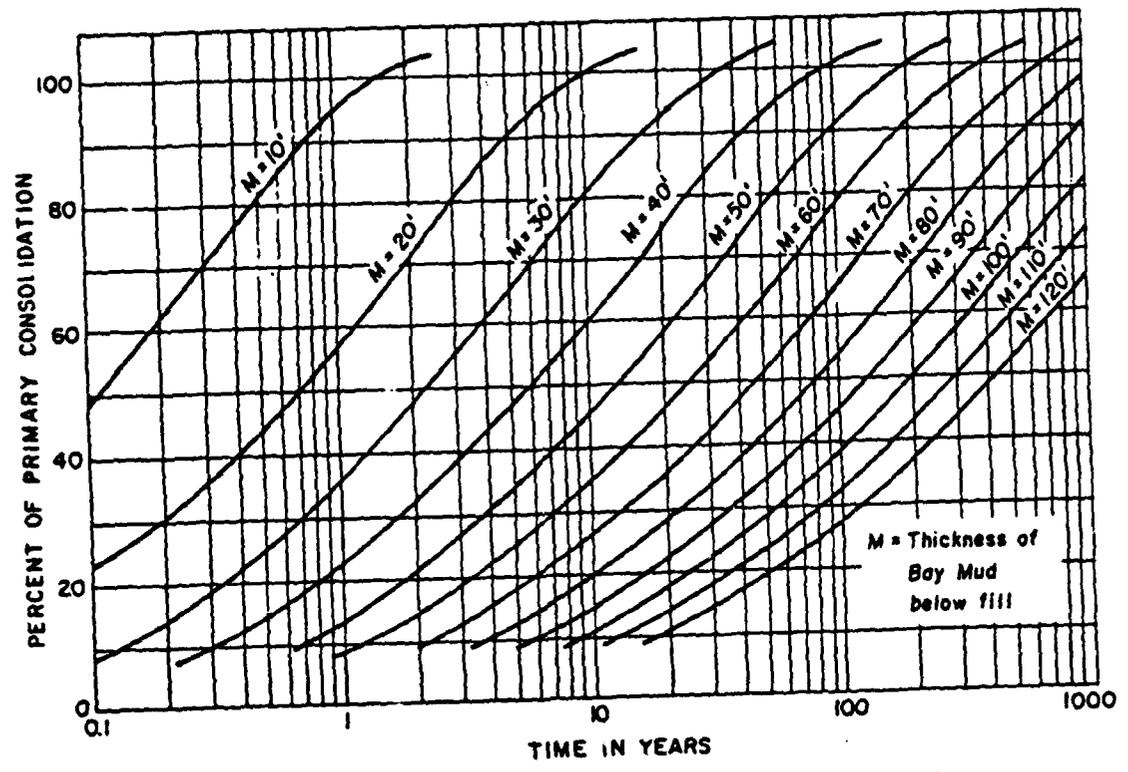


Figure 3. Percent settlement of fills over time according to thickness of mud. Source: adapted from U.S. Army, Corps of Engineers, Comprehensive survey of San Francisco Bay and tributaries, March, 1963, Appendix E, figure 24.

## Structural Hazards Related to Settlement of Bay Fill

Engineering problems related to the stability of various types of developments on bay mud have been discussed in a readable and understandable way by Charles H. Lee and Michael Praszker in a report to the San Francisco Bay Conservation and Development Commission (Lee and Praszker, 1969). The authors are consulting soils engineers who have had broad experience in evaluating and planning such developments. Their report is highly recommended reading for anyone concerned with evaluating or approving plans for bay fill development. They point out the various areas of engineering uncertainty related to bay fill developments (uncertainty to the engineer, but risk to the subsequent human occupants). The following quotations from their report are adequate to reveal the flavor of these uncertainties, or risks.

"The history of early bay fills has been recorded by various agencies. Some of its marks in the form of dilapidated buildings, continuously sinking streets and ruptured utilities are still extant. Evidences of destruction wrought upon certain bay-filled areas during the earthquake of 1906 have long been covered up, and subsequent refillings to bring streets up to grade are a matter of the past. Some kind of stability seems to have been reached during the 100 years' existence of these fills, but in some areas the present degree of this stability is a matter of speculation.

"It should be pointed out that the very early fills were placed haphazardly, and it is doubtful whether any attempt was made to predict their future behavior with respect to either total or differential settlement or even static stability, let alone behavior during earthquake.

"Although recent fills have been placed with the aid of available technological skill, there still exist some uncertainties with regard to the ultimate behavior of these fills under static conditions or during earthquakes." (Lee and Praszker, 1969, p. 43).

"...Problems have developed to various degrees relating to structures supported either directly by fill, overlying mud, or by deep foundations. The problems range from tilted buildings, cracking of walls, and vertical separation of buildings, to sinking of surrounding ground in the case of piled foundations." (Lee and Praszker, 1969, p. 44).

It should be noted that numerous examples of the types of structural damage mentioned above can be found in the various developments constructed on bay fill in Marin County. They seldom receive publicity, and so they are not generally recognized -- except by the distressed owners who must suffer the traumatic experience of watching their homes deteriorate or disintegrate. Several recent cases have received newspaper publicity, a somewhat rare occurrence. Many residents of an expensive, water-oriented subdivision on fill in the Greenbrae Marina area of Larkspur, constructed after 1965, have sued the developer for more than two million dollars for damages to their homes caused by differential settlement of the fill. The Marin County Tax Assessor allowed reduction of the taxable appraised values of many or all of these homes by \$10,000 to \$17,000 because of such damages as cracks in walls, sidewalks, and garages, undermining of foundations, and damages to plumbing and electric wiring (San Rafael Independent Journal, March 15, 1972, p. 34, and other issues). In an adjacent area, on Lucky Drive in Corte Madera, differential settlement of fill on bay mud tilted and damaged nearly completed condominium structures in 1973 (San Rafael Independent Journal, May 8, 1973, p. 3). Corte Madera filed a stop work order on the development until elaborate and expensive levelling mechanisms could be installed to adjust for the differential aspects of future settlement of the fill.

About half a mile to the west of these, two buildings in the Larkspur Isle Apartments had to be temporarily condemned and tenants of 26 units evicted in 1973 as a result of settlement of fill beneath the structures (San Rafael Independent Journal, September 14, 1973, p. 12). In this case the structures (about a year old at the time) are supported on deep, relatively stable pilings, but settlement of the underlying and adjacent fill in which utilities are embedded disrupted sewer lines under them.

One widespread type of damage within bay fill developments that is important both from the standpoint of civic expense and neighborhood appearance (and property values) is cracking, disruption, and differential subsidence of streets, sidewalks, and driveways due to erratic settlement of fill developments. Such damage can be seen in most bay fill developments. Because of the expense, these facilities do not receive the foundation engineering and work necessary for structures in such an unstable setting.

Lee and Praszker (1969, p. 49-50) discussed engineering requirements for fill material and its placement on soft bay mud for purposes of recreation, industry and commerce, and residential development. With regard to the last, they observed as follows:

"The construction methods for residential fills are similar to those for industrial or commercial fill developments. However, since the avoidance of differential settlement in residential areas is of utmost importance, with regard to streets, utilities, and also building foundations, stricter control of fill quality and method of placement is necessary. Such control is also necessary for prediction of future behavior of developments. It is impractical to support residential structures on piles while streets and adjacent areas are allowed to subside. Foundation support for residential buildings should therefore be taken upon the settling fill. Residential developments on fill placed upon bay mud are the most exacting of all possible uses. Any miscalculation, faulty placement, or undetected condition may result in rapid deterioration of residential subdivisions beyond practical repair." (Underlining added here for emphasis.)

The observation might be added that any significant deviation from well-qualified soils engineering recommendations might have similar deleterious results. As pointed out by Karl Steinbrugge, Professor of Structural Design, University of California, and Manager, Earthquake Department, Insurance Services Office, San Francisco,

"...It is usually the province of the structural engineer, architect, and/or developer to weigh the soils engineer's recommendations against estimated costs for reducing differential settlements to some tolerable limit. This tolerable limit is a matter of judgement, and no commonly accepted standard exists. In too many instances costs have probably influenced judgements, and this may explain some of the observed differential settlements in relatively recently placed fills." (Steinbrugge, 1969, p. 110-111).

The Uniform Building Code, a basic guide to sound building practices, does not adequately treat long range foundation stability problems such as those posed by the bay mud environment. Considering the highly unstable nature of bay mud, and the poor performance of many fills (even recent ones) placed on it, the lack of commonly accepted standards mentioned by Steinbrugge in the above quotation is clearly detrimental to the public interest.

In their report to the Bay Conservation and Development Commission, Lee and Praszker (1969, p. 50) made the following recommendations for placement of fill on bay mud for residential subdivisions:

- "For the specific purpose of developing mud flats for residential subdivisions, the following requirements are deemed necessary:
- (a) The first fill blanket must consist of well-graded granular material, carefully placed. The method of placement must be such that at no time is the mud surface distorted or broken with resulting mud waves.
  - (b) Compaction by heavy equipment of the first three-foot fill blanket should not be allowed. The only material that can be thus placed without future shrinkage of the fill material itself is either windblown sand or dredged sand. Both can be hydraulically placed.
  - (c) The rate of filling should not be in excess of three feet a year.
  - (d) Ultimate elevations and slopes should be adequate to provide drainage, flood control, and safety against tidal waves.
  - (e) Settlement markers should be carefully placed and read at regular intervals to establish a settlement pattern.
  - (f) No construction should start prior to the lapse of five years after the fill has been completed."

The last of these recommendations (f) is particularly important, for differential settlement patterns on bay mud fills may take a long time to become sharply defined, and it is this type of settlement that is most damaging to structures, utilities, and drainage.

We recommend that Marin County and cities along the bay margin adopt these recommendations within their building codes for residential developments on fills on bay mud. We also recommend that the technical aspects of all proposed bay fill developments be critically reviewed by the appropriate City or County departments prior to approval of the projects.

The foregoing discussion refers only to the unstable aspects of fill on soft bay mud under static conditions -- that is, simply the effects of gravity acting on a load placed on this "semi-fluid" material. As discussed later, strong earthquakes can be expected to accentuate these effects in addition to introducing other potentially disruptive aspects of instability to the setting.

## Flood Hazards in Bay Fill Areas

Perhaps the most distressing and expensive by-product of bay fill developments in Marin County has been the re-current flooding of some residential neighborhoods. The flooding of homes receives newspaper publicity, but the great private expenditures required to help alleviate flooding of these neighborhoods are largely hidden in local property taxes and Federal income taxes.

Various aspects of bay fill developments lead to the potential for flooding. The fill is always placed on a marsh or mud surface that is at or below mean sea level, thus as much as five to six feet below highest tide level. The long term settlement of the fill that always takes place lowers the new surface toward the tidal level. (Marin County ordinance presently requires that commercial and residential subdivision developments be at least 7 feet above mean sea level after 30 years of predicted settlement.) Another aspect is that many bay mud fills are across the mouths of major streams draining the Marin County uplands, thus they occupy the natural flood plains of these streams.

Examples of flood-prone bay fill developments are Gallinas Village, in the Santa Venetia area, and the Crest Marin and Kay Park subdivisions in Tamalpais Valley.

Filling on bay marsh land for the Gallinas Village area started in 1914, and was continued in the 1950's and later. The following quote from a 1971 consulting engineering report to the Marin County Flood Control and Water Conservation District, Zone 7, outlines the problem there (Nute and Nute, 1971, p. 1-4).

"The Gallinas Village area experiences major flooding at least once a year, although during extremely wet seasons flooding has occurred several times. The primary reason for the high incidence of flooding is the low elevation of the land with respect to the tidal water of Gallinas Creek.

"The existing drainage system consists of a combination of pumping stations and gravity drainage culverts discharging to Gallinas Creek. Since most of the area is below the elevation of the higher tides, tide gates are used to prevent backflow of the tidal water from the creek. Consequently, if a storm occurs during a very high tide, the gravity drainage system cannot carry off any water...During the highest tides, water from Gallinas Creek has actually topped existing levee sections and directly flooded low-lying areas, rendering the pumping stations completely inadequate...

"Basically, the need for correction of flooding in the Gallinas Village area is urgent. The area continues to subside as the underlying bay mud consolidates; consequently, flooding problems are becoming increasingly severe."

Since 1963, when the Marin County Department of Public Works established 5 settlement monuments in Gallinas Village, subsidence has continued at all but one at a rate of approximately 1 foot per 10 years. One of these monuments is located on fill placed in 1914, and the settlement rate there since 1963 has been about 2 inches per 10 years.

The cost for long range drainage and flood control improvements in Gallinas Village was estimated in 1971 to be \$1,143,000. In 1971, the total assessed value of all property in zone 7 of the Marin County Flood Control and Water Conservation District was only \$3,757,807 (Nute and Nute, 1971, p. 5-13).

Similar problems exist in lower Tamalpais Valley, where the adjacent Crest Marin and Kay Park subdivisions are on bay fill athwart Coyote Creek, a major channel that drains the Tamalpais Valley watershed. Fill was placed on bay marsh land in the 1940's, in effect robbing Coyote Creek of its sea level flood plain. Consequent repeated flooding of these residential neighborhoods led to a major project in 1965 by the U.S. Army, Corps of Engineers, to straighten, widen, and dike the creek channel -- supposedly adequate to protect the area from the maximum 20 year storm (meaning there is a 5 percent probability of flooding during any given year).

However, continuing subsidence of the bay fill in lower Tamalpais Valley has led to flooding of these neighborhoods many times since 1965. Much of the Crest Marin subdivision is only 4 to 6 feet above mean sea level, and observations of settlement monuments established by the County in 1962 indicate a continuing subsidence rate of about half an inch a year. When the highest predicted midwinter tides coincide with strong storm winds from the southeast, a high tide level of about 6 feet above mean sea level is considered probable in upper Richardson Bay at the mouth of Coyote Creek. Since our heaviest rains generally accompany strong southeast winds, the probability of recurring floods through these subdivisions could have been predicted from the beginning.

In a consulting engineering report to the Marin County Flood Control and Water Conservation District, Zone 3, the cost for long range flood control protection for this Tamalpais Valley area was estimated to be \$595,335 (Murray-McCormick Environmental Group, 1973, p. 6-7). Zone 3 of the flood control district must pay for all correction work done (exclusive of any Federal contribution); it includes all private property in drainage areas tributary to Richardson Bay.

### Stability Problems of the Uplands

Landslides and swelling soils constitute the principal geologic hazards to structures, roads, and utilities in the uplands of central and southeastern Marin County. Both are widely but unevenly distributed in the area, and both are related to the bedrock geology and the surface soils and colluvium derived by weathering of the bedrock.

In Appendix A we have compiled a long, but incomplete, list of landslide damage occurrences in central and southeastern Marin for about a 15 year period. The cost of this damage was great, but we were not able to obtain that information. There are, however, many examples in California of the great costs of damage to residential developments that are located in landslide areas -- costs to the individuals who owned houses that were damaged or destroyed and costs to the public in repair of streets and roads and in other emergency services.

For example, in the early 1950's about 150 homes were built on an ancient inactive landslide in the Palos Verdes Hills, in Los Angeles County. Expert testimony given later in court indicated that landsliding probably had not been active in the area for 10,000 to 13,000 years, but certainly not in historic time (Richards, 1961). By 1956, however, renewal of landsliding caused many millions of dollars in damages. Although numerous factors may have contributed to the renewal of sliding there (such as site grading and excess water added to the ground from cesspools and lawn sprinklers), the courts held that Los Angeles County was liable for damages (about \$12,000,000) because of road work on a boulevard through the development.

In another documented example, Nilsen and Brabb (1972) mapped and researched the damage and costs related to landslide movement within the San Jose Highlands subdivision, built partly on old landslide deposits near Alum Rock Park in San Jose. Costs of actions taken by and financed by the City of San Jose due to landslide activity in that subdivision between 1968 and mid-1971 was about \$760,000. Total 1969-70 loss in market value for all houses and lots in the subdivision was estimated by the Santa Clara County Assessor's Office to be \$484,520. As summed up by Nilsen and Brabb:

R.H. Wright, formerly of the U.S. Geological Survey, was contacted in an effort to determine the precise location of these features. He stated that these features were air photo lineaments and that he had not checked them in the field. The photos he had used were flown in 1971; he had not seen photos of an earlier date (R.H. Wright, oral communication, Oct., 1975).

Earlier photos (Cartwright Aerial Surveys, 1965, approx. 1:12,000 scale and U.S. Geological Survey, 1952, approx. 1:26,000 scale) show the edge of a plowed field and a (now abandoned) farm road along the easternmost lineament. The westernmost lineament lies in a terrain modified about 1965 for construction of a golf course. We could not find any corresponding lineaments in the earlier photos. In general, we did not observe any linear features in the area that could not be explained as resulting from man's activities.

The Berkland reference, to which Wright had related his easternmost lineament(s), states: "It is probable that the Tamarancho Shear Zone is relatively young...The assumed youth of the shear zone is based partly on the fact that it parallels the San Andreas fault..." (Berkland, 1969, p. 92-93). Berkland's description of the shear zone is typical of the zone of Franciscan melange that occurs there, and does not mention any of the features commonly associated with Holocene faults. Nowhere in Berkland's report, in fact, does he cite evidence for Holocene fault activity in this area.

In conclusion, we did not observe any features indicating recent faulting in the San Geronimo Valley or elsewhere in central or south-eastern Marin County, either in the field or on air photos.

#### Seismic Hazards in Existing and Filled Marshlands and Mudflats

Abundant evidence from many great earthquakes throughout the world has shown that damage to buildings and utilities tends to be considerably greater where they are located on deep, loose, compressible deposits, such as the soft bay mud, than where they are on hard bedrock sites. The reasons for these selective damage patterns are complex. Well consolidated rock transmits seismic waves at relatively high velocities, and does not selectively amplify input waves transmitted to it from earthquake-producing fault displacements. Unconsolidated materials such as bay mud transmit seismic waves at relatively low velocities. Where thick deposits of such loose materials occur, the higher frequency content of the input waves received from the underlying bedrock is damped, leaving a wave with the lower frequencies relatively amplified.

Thus, structures on bedrock are likely to be subjected only to the effects of relatively high frequency, relatively low amplitude vibrations for relatively short durations, and the ground surface in such settings is not likely to suffer permanent deformation. On the other hand, structures on compressible deposits, such as bay mud, are subjected not only to the effects of relatively low frequency vibrations of relatively high amplitudes for relatively longer durations characteristic of this setting, but potentially are also subjected to tilting, distortion, or disruption caused by accelerated settlement, lateral displacements, or liquefaction of the loose materials within them (see especially Borchardt, Brabb, et al., 1975, and Youd, et al., 1975).

This relationship of earthquake damage to ground conditions was first recorded as a result of detailed studies of the great San Francisco earthquake of 1906 (Lawson, et al., 1908, p. 241). In recording his observations of structural damage in San Francisco for that report, Wood concluded:

"This investigation has clearly demonstrated that the amount of damage produced by the earthquake of April 18 in different parts of the city and county of San Francisco depended chiefly upon the geological character of the ground. Where the surface was solid rock the shock produced little damage; whereas upon man made land great violence was manifested."

Seed (1969, p. 96-97) argues that the damage observed by Wood was principally caused by such secondary effects of the earthquake as settlement and lateral displacements of the fill rather than simply by the primary effects of shaking.

It has been pointed out earlier in this report that differential settlement under the influence of gravity alone probably is unavoidable in fill placed on soft bay mud, and that numerous structures on recently placed fill have suffered damaging deformation. Steinbrugge (1968, p. 27) points out that differential settlement of a building prior to an earthquake introduced stresses that can substantially weaken it and make it more susceptible to later damage by earthquakes. He suggests that such differential settlements prior to and during an earthquake are a major reason for greater observed earthquake damage on man-made fill.

However, there is evidence that the primary effects of wave vibrations in unconsolidated deposits can be highly destructive, particularly to buried utilities. In recording some of the effects of the great Arvin-Tehachapi (Kern County) earthquake of 1952 (7.6 magnitude), Newmann and Cloud made the following comments about some observed effects of the quake on farm lands underlain by deep alluvial deposits:

"The other type of ground disturbance that attests to the unconsolidated nature of the terrain was the wrecking of miles of underground concrete irrigation pipes, the furrowing of fields, and the appearance of innumerable ground cracks. These, it appears, were the result of the violence of the ground vibrations which could have represented possibly a 10- or 15-fold amplification of the vibrations in the basement rock" (Newmann and Cloud, 1955, p. 209).

Thus we should expect water, gas, and sewer pipes to be ruptured in places by strong earthquake vibrations, especially where they are embedded in fill on bay mud.

In the summary of his recent report on seismic risk to structures on filled lands, Steinbrugge comments:

"From the earthquake standpoint, the use of engineered fills over deep bay compressible soils for building foundations must be considered to be experimental to some degree." (Steinbrugge, 1969, p. 114).

After summing up the many earthquake-resistant design precautions desirable for the least hazardous development of bay fills, Seed (1969, p. 99) similarly concludes:

"...it is clear that construction of buildings on fills overlying bay deposits involves considerably more potential hazards than construction on rock or dense, hard soil deposits. On the latter materials, in areas away from the fault trace, the only hazard resulting from an earthquake is likely to be the shaking induced by the ground motions. On the other hand, for earth fills over bay deposits, major hazards to be considered in addition to ground shaking include subsidence and settlement due to compaction, landslides due to various causes, and liquefaction."

#### Landslides and Fires Triggered by Earthquakes

The predominant sources of earthquake damage to be expected in the uplands of Marin County are from landslides and fires triggered by the shaking.

### Colluvium

Colluvium is a general term for deposits of unsorted and unconsolidated soil material and weathered rock fragments that accumulate on or at the base of slopes by gravitational or slope wash processes. (By this definition, colluvium includes landslide deposits; however, where recognized, landslide deposits were mapped separately, and they are discussed here separately.) Soil and rock debris in colluvial deposits were derived by weathering and decomposition of the bedrock materials underlying the slopes on which they are found, and are present on most slopes in the central and southeastern Marin area.

Rapid erosion prevents colluvium from accumulating to depths of more than a few feet on the steepest slopes in the area. However, it accumulates in deposits many feet to many tens of feet thick in places on the slopes, particularly in ravines, draws, and swales that separate the spurs of the ridges.

Colluvium is also present in blanket-like accumulations many feet thick on the steep, heavily-wooded north slopes of many ridges in the area. Commonly the south facing, grass covered slopes of these same ridges slope more gently than those in the north side, but have only thin colluvial cover. Clearly, dense tree cover inhibits erosion of the colluvium and stabilizes it -- an important factor to be considered before removal of these forests. Being unconsolidated, colluvial deposits are weak and subject to landsliding, particularly when saturated. Many landslides of the debris flow and avalanche types in southeastern Marin originated in colluvium. Therefore the naturally protected deposits of thick colluvium on steep slopes are potentially highly susceptible to landsliding if subjected to careless clearing or grading operations.

### Bay Mud

The present and former marshlands and mudflats bordering the bay are underlain by various and uneven thicknesses of bay mud (also called "soft bay mud", "Younger bay mud", and "recent bay mud" in various reports). This mud is soft, unconsolidated, water-saturated silty clay, containing peaty plant remains and mollusk shells. Its general physical characteristics have been appropriately pictured as "...semi-viscous material similar to jelly which can easily change its geometric configuration" (Lee and Praszker, 1949, p. 47). In central and southeastern Marin, the bay mud not only underlies the existing marshlands and mud flats, but also many residential and commercial developments on fill placed on such lands within recent decades.

The characteristics of the soft bay mud are the result of its origin and youthful age. As little as about 12,000 years ago, during the Pleistocene epoch (the "Ice Age"), sea level was some 300 feet lower than it is now because of the immense amounts of water stored in the glacial ice piled on the continents. The basin of the present San Francisco Bay was a deep valley of the Sacramento River, with tributary streams (such as Corte Madera Creek) eroding sharp, steep sided valleys, gorges, and ravines in the adjacent uplands.

With the melting of the great glaciers, sea level rose gradually to flood the valley system and create our Bay. During the drowning process, much of the clay and silt carried in the flood waters of the Sacramento River were deposited within the now quiet waters of the flooding valley system, rather than being carried out through the gorge of the Golden Gate as before. Lenses of peat and peaty clay within the resulting soft bay mud deposits indicate intermittent marshy growths that were successively buried by floods of new silt that accompanied surges in the rise of sea level.

By about 7000 years ago the sea had reached its present level, and the old valley system had been partially buried by the soft, water-saturated, organic silty clay we call bay mud. It has not had time to consolidate, to have the water squeezed out of it by slow natural compaction processes.

Indeed, samples of soft bay mud taken at various depths in bore holes normally contain much more water, by weight, than solid matter. Such samples, when dried, typically range in dry density from less than 40 pounds per cubic foot to about 55 pounds per cubic foot (pure water has a density of 62.4 pounds per cubic foot, and common rock about 150 pounds per cubic foot). So, as stated by Lee and Praszker (1969, p. 44), "...the voids in the bay mud, which are the spaces intervening between solid particles, are roughly twice the volume of the solid particles. Thus a cubic foot of bay mud is made up of one third of a cubic foot of solid particles and two-thirds of a cubic foot of intervening space which is occupied by water or air." This high porosity, combined with its low permeability, the result of its fine grain size and its jelly-like matrix, make the soft bay mud low in strength and incapable of supporting appreciable loads. Not only is it highly compressible, but, when saturated, it will flow laterally under the influence of localized pressures such as thick fills placed on it too rapidly.

Peat is by far the most compressible of the components making up the soft bay mud. Typically, it occurs as discontinuous lenses erratically distributed throughout the layered sequence. The presence of an appreciable thickness of one or more lenses of peat that are unknown or unaccounted for is likely to result in significant differential settlement of fill placed over it and disruption of structures on the fill. The known presence of such lenses can be expected to increase, significantly the cost of site preparation, engineering, and construction of structures.

Because it overlies an irregular topography, the thickness of the bay mud is variable from place to place (commonly abruptly so), ranging from 0 to well over 100 feet.

Since the potential for consolidation and settlement of the mud varies from place to place (especially caused by lateral variations in its thickness and by the presence of discontinuous lenses of peat within it), and these variations can be extrapolated only broadly from sparse samples obtained from widely-spaced bore holes drilled for engineering exploration (commonly more than 1,000 feet apart), subsidence of large areas of fill can be expected to be differential -- more in some places than in others.

#### Landslide Deposits

Landslide deposits are widely but unequally distributed in southeastern Marin County. These are surficial deposits of rock or soil materials that have separated from original positions on slopes and moved downslope under the influence of gravity; thus they indicate an existing or past condition of instability of those slopes.

The principal criteria for recognition of such deposits are the characteristic topographic expressions that result from the downward and outward displacements of the landslide masses. Prominent topographic features that commonly develop in landsliding include scarps, terrace-like benches that commonly have topographic sags or depressions on them, hummocky or disrupted ground surfaces, and anomalous drainage patterns.

Figure 4 illustrates basic types of landslide movements and their topographic expressions, with names often applied to them. Most landslide deposits in southeastern Marin County are debris flows, but many or most of these were composite in their development. Typically such landslides originate as rotational slumps, but disintegrate with further

SELECTED REFERENCES

Lee, C.H., and Praszker, M., 1969, Bay mud developments and related structural foundations; in Goldman, H.B., ed., Geologic and engineering aspects of San Francisco Bay fill: California Division of Mines and Geology, Special Report 97, pages 41-86.

Seed, H.B., 1969, Seismic risk in the use of fills in San Francisco Bay: CDMG Special Report 97, pages 87-100.

Steinbrugge, K.V., 1969, Seismic risk to buildings and structures on filled lands in San Francisco Bay: CDMG Special Report 97, pages 101-116.

(All of these reports were written by very experienced engineers for use by planners and other citizens.)

C1

250 West K Street  
Benicia, CA 94510  
5 July 1983

Ann Merideth  
Vallejo Planning Department  
P.O. box 3068  
Vallejo, CA 94590

RE: Cullinan Ranch Draft EIR

Dear Ms. Merideth:

Below are my comments on the Draft EIR for the proposed Cullinan Ranch project.

64

Page 14: There is a question regarding the extension of the City's Sphere of Influence by LAFCo to cover this area. Please review June 11, 1982 letter to City of Vallejo from Solano County Planning Department and July 29, 1982 letter to Solano County LAFCo from BCDC. Each point raised in these letters must be responded to because there is some question as to the legal sufficiency of the action taken by the City of Vallejo and LAFCo to extend the Sphere of Influence to cover this area.

For example, Solano County stated in its letter that it was a timely appeal to the City's proposed Negative Declaration. What was the result of this appeal? Also, please provide a list of all actions (and dates) taken by both the City and LAFCo regarding the change in the Sphere of Influence.

65

Page 15: Describe in detail all the policies of the City of Vallejo's General Plan that relate to the project site. It is difficult to believe that the only criteria for General Plan consistency is whether or not the project site would be filled, as stated on page 16. On page 53 it states that 50 year settlements of three feet could occur in some areas of the site, this would appear to indicate that the site is unsuitable for urban development as discussed in the General Plan. Please respond.

66

Page 17: Provide additional information as to how the project is consistent with each of the eight housing goals discussed on pages 15 and 16.

67

Page 20: Solano County LAFCo is under a court order to prepare new standards for evaluation of LAFCo proposals. Describe how adoption of new standards will impact this project.

68

Page 53: The impact of importing 13 million cubic yards of fill to the site will be significant. The EIR must describe the source of this fill material and the impacts associated with excavation and transportation of the fill. Without this data the EIR is deficient.

69

Page 96: The noise section was apparently prepared without any on-site measurements being conducted. Include in the Final EIR existing and future noise levels based upon current on-site measurements.

70

Page 116: Newspaper articles over the past years have described numerous problems at the VSFCO's sewage treatment plant. Describe these problems and the impact on the project.

Ann Merideth  
Vallejo Planning Department  
Page 2

71  
Page 126: The Economic/Fiscal section has several problems including:

The entire section is based upon the assumption that the proposed project (Alternative A) is feasible from a marketing point of view. There is, however, no evidence that there exists a market in the City of Vallejo for the type and cost of housing proposed. This is important because the costs and revenues are based upon a rate of sales resulting in the proposed phasing scheme. If, however, there is not an adequate market for the project and the sales' estimates contained in the fiscal analysis do not occur this would significantly change the cost/revenue analysis. The EIR must, therefore, contain a market analysis and a discussion as to whether or not the proposed project is realistic given current Vallejo market conditions.

The EIR is silent on the ability of the proposed project to finance the necessary capital improvements. What is the cost for each of the necessary improvements to the City's infrastructure and how will these improvements be financed? Is it possible to provide these improvements at no net public cost? Can this project financially support the necessary public improvements required for the project?

72  
Page 151: The Growth Inducing Impacts section is deficient. The project will set a precedent of urban conversion in this area and result in growth inducing pressures along Highway 37 west of the Napa River. This project is the first inroad of urbanization in the largest remaining area of agriculture, open space and wildlife habitat in the entire San Francisco Bay system.

Growth pressures will come in this area as the result of the extension of public services across the Napa River and the construction of 4,500 residential units plus 1,600 to 1,700 boat berthing spaces. Describe in detail the growth inducing aspects and the pressures for urbanization that will occur along Highway 37 to the west in both Napa and Sonoma Counties as a result of this project.

I would appreciate a copy of the Final EIR and notice of all public hearings concerning this project.

Yours truly,



Bob Berman

cc: U.S Army, Corps of Engineers

**LETTER #I-12**

64. On June 1, 1982 the City of Vallejo requested the Solano County LAFCO to extend the sphere of influence of the City to include the Cullinan Ranch property. On June 3, 1982 the City certified a negative declaration for that extension. On June 11, 1982 the County received a letter from the Solano County Planning Department questioning the validity of the request to extend the sphere of influence. On June 29, 1983 the County Clerk certified the Notice of Determination on the City action triggering a 30 day statute of limitations to challenge the City's action. No legal challenge was filed during that period.

On July 29, 1982 the County LAFCO received a letter from BCDC requesting that it not approve the sphere of influence extensions raising a variety of environmental reasons. In August 1982 the County LAFCO granted the City's request to expand the sphere of influence. A notice of determination was not filed until June 29, 1983. No litigation was filed during the 30-day statute of limitations period.

The Vallejo City attorney has issued an opinion indicating that the statute of limitations had run out on those approvals (see Appendix IV.C).

Since the statute of limitations has run out on the sphere of influence extensions, even if those actions were legally deficient, it is too late to challenge the City's or LAFCO's action. However, the concerns raised in the letters of June 11, 1982 and July 29, 1982 are discussed in Section III.A. of the Final EIR/EIS.

65. The text of the Final EIR/EIS discusses the relationship between the proposed project and the Land Use and Circulation Element and mentions the policies of the Housing Element (pages 15-16). In addition to these elements the Vallejo Comprehensive Plan 1983, contains the following elements each of which is discussed separately below:

- Urban Design
- Housing
- Business and Industry
- Transportation
- Schools and Parks

- Public Facilities and Services
- Environmental Resources

### Urban Design

The goal of the urban design element is to establish a strong city identity. Cullinan Ranch is mentioned as an area designated for future development. Several elements of Urban Design each have their own goals stated in the plan.

Creating neighborhoods is the first sub-element. The goal of this sub-element is to "have each neighborhood have an image, sense of purpose and means of orientation." Since the proposed project would be an entirely planned water-oriented community containing diverse housing types, parks and other neighborhood amenities it appears to be consistent with the goal.

A second sub-element is Business Street Design, the goal of which is "to have attractive, exciting shopping areas." Although this sub-element is designed primarily to address the revitalization of downtown Vallejo and other older areas of the City, it appears that the commercial areas of the proposed project would be designed to satisfy this goal.

The third and fourth sub-elements of urban design deals with historic preservation and hillside development and are not applicable to the proposed project.

The fifth sub-element is waterfront development and the goal of having "a waterfront devoted exclusively to water oriented uses, including industrial, residential, commercial and open space uses that permit public access. This sub-element specifically mentions that Cullinan Ranch is "unsuitable for urban development, unless extensively filled." Since the project developer is proposing to fill the site, the sub-element would allow urban development. However, the sub-element further indicates that if Guadalcanal Village area is developed, it should be buffered from the wetlands. Such buffering may be difficult if Cullinan Ranch is also developed under Alternatives A, B or C. Alternative "E" would provide such a buffer.

The sub-element allows water oriented residential development. However, it indicates such developments should have "continuous" public access to the waterfront. Although there would be public access along Dutchman Slough and at select points throughout the development, such public access would not be "continuous" within the interior of the

marina. In fact, private residential backyards would abut the water throughout much of the project.

The final sub-element of urban design is scenic highways, the goal of which is "to protect and enhance the visual corridors of designated scenic routes." However, this sub-element allows for new development so long as certain screening, landscaping access and design standards are satisfied. Thus, while Route 37 is being considered for state scenic highway status, the plan would allow development to occur. The design, and access in the proposed project appear consistent with the standards in the plan.

b. Housing

Housing is discussed in Response to Comment 66.

c. Business and Industry

This element contains four sub-elements: Major Commercial Areas; Industrial Development; Agricultural Production; and Mineral Resources.

The goals of the commercial sub-element are "to have an adequate amount of area for each type (neighborhood, community and regional) commercial development." Additional goals are to "have neighborhood convenience centers to serve new and existing residential areas" and to "have healthy commercial shopping areas..." The commercial development proposed for the Cullinan Ranch appears to be consistent with these goals and the policies set forth to implement them.

The industrial development sub-element is not applicable to the proposed project.

The agricultural sub-element only encourages the preservation of "prime" agriculture land and "specialty crop land." Although Cullinan Ranch does not contain prime soils, the production of hay and oats could be considered specialty crop because of its importance to the local dairy industry. The plan contains no definition of "specialty crop land".

There are no known mineral resources on the site.

d. Transportation

The transportation element of the plan encourages increased transit usage, especially

among commuters and better service for dependent residents. Developments are required to include bus stops in large scale developments. At the various stages of development of the Cullinan Ranch project the developers would work closely with the Vallejo transit lines to locate an appropriate number of bus stops and related facilities.

The Cullinan Ranch specific plan contains a complete street and highway system that appears consistent with the street and highway system sub-element of the general plan. The proposal of the State Department of Transportation to improve Highway 37 would be compatible with the project, and in fact would improve the current traffic situation near the project site.

The developers will work closely with the City of Vallejo traffic engineer to assure proper street layouts and reduce hazards to increase traffic safety.

The Cullinan Ranch Specific Plan will contain a complete network of bicycle trails that is consistent with the General Plan's goal of encouraging bicycle use for recreation, commuting and shopping.

e. Schools and Parks

See Response to Comment 112 (Parks) and Comments 34 and 60 (Schools).

f. Public Facilities and Services

The goal of the public facilities and services element of the Plan is "to provide an efficient and financially sound system of urban services to protect the health, safety and general welfare of Vallejo residents." The element contains specific policies dealing with:

- Water Service
- Street Maintenance
- Solid Waste Collection
- Fire Prevention
- Crime Prevention

The plan also requires new development to pay for the cost of extending services and to provide a cost-revenue study. Such a study has been prepared and updated and included in this report. The proposed development appears consistent with this element. For detailed

discussion see Section III.K. of the Final EIR/EIS dealing with Public Services, and Section III.L. dealing with Economic/Fiscal impacts.

g. Environmental Resources

The final element of the Vallejo Comprehensive Plan deals with environmental resources. These include:

- Risk Definition
- Seismic Hazards
- Slope Stability
- Soil Related Problems
- Floodplain Hazards
- Fire Hazards
- Noise Hazards
- Air Quality
- Water Resources
- Fish and Wildlife Habitats
- Energy Resources

The relationship of the proposed project to the goals and policies of each of these sub-elements are described in the relevant chapters of the Final EIR/EIS.

66. The text has been revised to include a discussion of the relationship of the proposed project to the goals of the Housing Element. The relationship between the proposed project and the goals of the Housing Element of the Vallejo General Plan are discussed below, in the order they are presented on page 15 and 16 of the Final EIR/EIS.

1. Vallejo's fair share of non-market rate housing is determined by the Association of Bay Area Governments and approved by the State Department of Housing and Community Development. According to the General Plan, the City is required to provide 35.6% of its housing in the non-market rate category.

According to 1980 census data, approximately 60% of the households in Vallejo are in the low and moderate income range.

Existing housing, Vallejo is exceeding its share of the Bay Area's needs

for low and moderate income housing.

However, the Housing Element of the General Plan is currently being updated and a new fair share allocation will be made. At this time the new percentage is not known. The City wants the percentage of non-market rate housing reduced to 30% and ABAG wants it increased to 40%.<sup>1</sup>

The final percentage selected and approved will determine the City's future obligation for providing low and moderate income housing.

However, under either formula, Vallejo would be responsible for contributing some low and moderate income housing in the future.

For a variety of reasons, the Cullinan Ranch project will not contribute significantly to the low and moderate income housing needs. The costs of land development including filling the site, introducing public services and constructing marinas would preclude the construction of non-market rate housing. Other, non-water-oriented sites within the City of Vallejo would be more appropriate for low and moderate income housing due to their lower development costs.

However, there may be some opportunity within the Cullinan Ranch project to introduce some moderate income housing among the medium density units. The developer could, for example, construct one-bedroom or studio condominiums which would be marketable to moderate income households. The City's P.U.D. zoning allows a developer to obtain density bonuses for providing low and moderate income units. The inclusion of some moderate income units could contribute to the City's share of non-market rate housing.

2. The Cullinan Ranch project due to its high development costs and water-orientation offers only limited opportunity to provide for the needs of the four special groups identified in the housing element. However, some opportunity does exist specifically for the handicapped and senior citizens. The Vallejo zoning ordinance allows density bonuses for including handicapped or senior housing. The developer should consider including handicapped units, medium density units and also should consider a special complex designed for active seniors. The size of the project and number of units makes such units feasible without jeopardizing the developer's goal of a high quality

marina-oriented community.

3. The goal deals with existing housing and is not applicable to the proposed project.
4. The proposed project is a planned community which would include facilities and public and commercial services. It is located very close to downtown Vallejo and would offer easy access to both local and regional employment centers.
5. The Housing Element specifically encourages the development of new housing serving middle and higher income households to provide a greater housing diversity. The proposed project is consistent with this goal.
6. Housing in the proposed project would be sold on a completely non-discriminatory basis. The developer would work closely with the City Human Relations Office to handle any complaints of discrimination.
7. This goal is not applicable to the Cullinan Ranch project.
8. This goal is directed at City programs, not private developments.

67. As a result of recent litigation, the Solano County LAFCO was ordered to prepare new standards for consideration of annexations. In response to this court order the County hired a consultant who drafted proposed standards and prepared an EIR. In November, 1983 the EIR was circulated for review and comments received. The draft standards are currently being revised and will not be adopted until April or May of 1984. Until that time, no annexations (with certain exceptions for minor projects) may be approved by LAFCO. This moratorium applies to the Cullinan Ranch project.

The draft standards (January 1984) are stated in Appendix IV.E.

68. Please see Responses 25 and 57.

69. On-site noise measurements were taken in preparing this Final EIR/EIS and the results have been included in Section III.I.

70. The present wastewater treatment facility does not meet discharge standards and

plans call for a biological addition to resolve the problem. This will not add to its present capacity, however, which is necessary to accommodate the project at its full buildout.

71. Market data have been submitted by the project sponsor and evaluated by the City of Vallejo, MacDonald and Associates and EIP Corporation, and it has been determined that the data justify the market values projected in the analysis. The study, entitled "Cullinan Ranch Housing Market Analysis: Vallejo, California, June 1982," prepared by Alfred Gobar and Associates Inc., is available for inspection at the City of Vallejo Planning Department.

Both capital improvements and on-going costs for public services and facilities will be assessed against the proposed project and can be financially supported by the developer and future residents of the project with no net public costs to the City of Vallejo. Public revenues are projected to exceed public costs for the project.

72. Much of the area immediately west of the Napa River is in salt pond use, and other land would be difficult to develop because of land title problems (See response to Comment 144). The Final EIR/EIS has been revised to describe growth-inducing impacts, on page 151.

---

<sup>1</sup>Hal Boex, Business Development and Planning Director, City of Vallejo, letter to ABAG, Dec. 7, 1983.

C2

4300 Dry Creek Road  
Napa, California 94558  
June 28, 1983

Ann Merideth  
Planning Department  
P. O. Box 3068  
Vallejo, CA 94590

RE: Draft EIR/EIS for Cullinan Ranch

During last fall's evening scoping session for the Cullinan Ranch EIR/EIS in Vallejo, I asked that the acquisition of fill to be used in the project be included in the EIR/EIS.

73

I have read the draft carefully and find only a small percentage of the fill included. The EIR/EIS is surely deficient if the source of some 16,000,000 cubic yards of fill is not identified and the impact of taking that material as well as the the method of transporting it is not described and evaluated.

If the fill's source is not defined, how can its engineering properties be ascertained?

If the fill's source is not defined, how can the Corps or the city know who else is impacted by the project? How can the impactee(s) know?

74

Also, I thought I remembered someone's asking that the EIR/EIS address the problem of induced growth. Growth is addressed in the draft as if this project were not of regional importance. Intense urbanization of an area virtually uninhabited, without structures, even, is certainly mementous. Vallejo is considering extending its services across a significant body of water and into a really new geographical area and land type. The whole north bay is going to feel repercussions from Vallejo's actions, but that is not even mentioned, let alone addressed in the draft.

Sincerely,



# Residents' Plea For Higher Taxes

The city council Tuesday heard a plea from residents they may never hear again: Please raise our taxes.

The people asking to pay more taxes are from the River Park Marina Association, and the reason is that their homes are coming uncomfortably close to the Napa River.

Winter storms have seriously eroded banks and damaged boat docks at the river edge developments off Marina and River Park drives. Repair costs have been estimated at \$250,000 by City Public Works Director John Lindblad.

The money for that will come from River Park residents themselves, who pay annual special assessment taxes to the city for repair and maintenance.

For the past two years, they have paid 30 percent per \$100 of actual value of their property. Thus, a homeowner with a \$100,000 home paid \$300.

But that assessment has only raised \$100,000 — far short of what is needed to make repairs this year. In order to raise enough funds, the rate might have to be raised to about \$1 per \$100 of actual value, said Finance Director John Dannewitz today.

A \$300 tax bill then increases to

about \$1,000.

That is a small price to pay when your home is sliding towards the Napa River, said area resident Terence Savory. One piece of his land

is only about four feet from water and coming closer, he told the council Tuesday.

"We are still wanting to foot the bill in the form of tax liabilities or whatever," said Lewis Way resident Robert Cudaback.

Mayor Phyllis Moore observed that some properties in the area may not survive another winter.

Staff was directed to set up a public hearing before the council as soon as possible on tax increases.

The need for immediate repairs poses a special problem for River Park residents and the city. The special assessment district is already in the hole about \$60,000 from a city advance last year, City Manager William Bopf said, and higher tax revenues wouldn't be realized until next year — after winter storms have done more damage.

The council may consider floating a tax anticipation note to raise money

now, or some type of private financing may have to be arranged, Bopf said.

In setting tax rates for the district, the council acts as its board of directors.

Vallejo Planning Department  
555 Santa Clara  
Vallejo, CA 94590  
R.E. Cullinan Ranch

As a former Vallejo resident, I'm wondering if this isn't the sort of problem Vallejo could expect if the Cullinan Ranch is developed — but will Vallejo be lucky enough to have people willing and able to pay their own bills? I'm not even sure that's true in Napa.

Sincerely,  
Jean Chapman  
4300 Dry Creek Rd  
Napa, CA. 94558

**LETTER #I-13**

73. Please see Responses 25 and 57.

74. See response 72.

(I am a member of the Sierra Club  
(and my family))



Sirs & Mrs's

June '83

As a resident of Valljo and previously Berkeley for the last 35 years I implore you to do all you can to help save the North Bay Wetlands and not allow this beautiful area to be developed. It would be a terrible mistake. Due to poor planning over the 50 yrs or so the Berkeley - S.F. area bay has lost approx. 75% of its shoreline and it can never be changed.

The North Bay is beautiful

75

2

and is the real reason an awful lot of people like to live in the Napa - Vallico area.

Destroying this would be a terrible mistake. Also the last bit of wildlife in the area would suffer certain extinction. We need the farm & agricultural areas in the Vallico area to offset the big-city feeling which otherwise would be present.

Please consider this very carefully. Recreation areas are scarce and this would destroy the last beautiful open area -

Thank you - B. Harris  
845 Kentucky St.

B. Harris  
845 Kentucky St.  
Vallejo

**LETTER #1-14**

75. Comment noted.

x C2

Dear Commission Members,

6-21-83

I am objecting to the inappropriate extension of urban services to this area, to the conversion of agricultural lands, to the incompatible development adjoining major natural habitat areas.

Please give your special attention to these vital matters. Thank you

Mrs Margaret Sibley  
2048 Bancroft Ave  
San Leandro CA 94577

76

**LETTER #I-15**

76. Comment noted.

1-22

June 29, 1983

Ann Meredith  
Planning Department  
City of Vallejo  
P. O. Box 3068  
Vallejo, CA 94590

Dear Ms. Meredith,

I am writing in response to the Draft EIR/EIS on the Cullinan Ranch prepared by Torrey and Torrey, Inc. in May of this year.

77

I am very much disturbed by the document, and by the role that the residents of Vallejo might be required to fill in enduring the costs of such a project--not only a possible heavy financial burden via revenue bonds (see deficit balances on page 133 of the Draft EIR), but costs in overcrowding of schools; in sewage pumping, transporting and processing; in transporting thirteen million cubic yards of mud fill over a three-lane road; in contingency liability for maintenance obligations; in police protection that is already strained by the high crime rate within Vallejo; and in the loss of an endangered species--open space (especially out-of-line when the city of Vallejo has space available for building development within its boundaries--and a tremendous need for a quality shopping mall).

It seems to me there are projects that need to be undertaken closer in than the Cullinan Ranch area. I have observed in the few years I've lived in Vallejo that this city lacks identity and cohesiveness, and I don't believe the Ranch proposal would provide that for Vallejo. It would diffuse the context of the city even more. It almost certainly would reinforce the division between the rich and the poor in this community.

What would the Cullinan Ranch development bring to Vallejo residents in the way of benefits--in the short run--in the long run? Would they exceed the costs to the residents of this community?

Respectfully,

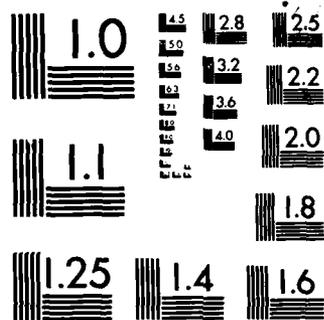
*Dorothy Christian*  
Dorothy Christian

101 Hillborn Ave, #5  
Vallejo, CA 94590

**LETTER #I-16**

77. Comment noted. The primary benefit to the City would be the provision of new housing and increased tax revenues. The project applicant's statement of benefits is included as Appendix IV.A.





MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

Received 6/9/83

C2

X

San Francisco, 6-8-83

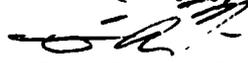
Planning Commission  
Vallejo City Hall  
Vallejo, CA. 94590

Gentlemen:

78 We want to express our general objection to the inappropriate extension of urban services to the massive development of 1550 acres known as Cullinan Ranch on the shore of San Pablo Bay, as well as to the conversion of agricultural land and to the incompatible development adjoining major natural habitat areas.

We thank you for your consideration and help in this vital matter in advance and remain,

Sincerely yours,



Mr. & Mrs. Edward A. Beyeler  
1914 Balboa St. SF. CA. 94121

**LETTER #I-17**

78. Comment noted.

75 Fairway Drive  
San Rafael, CA 94901



# CITY OF VALLEJO

OFFICE OF THE PLANNING DEPARTMENT

## NOTICE

### CULLINAN RANCH DRAFT ENVIRONMENTAL IMPACT REPORT AND STATEMENT

C2

*A Plus*

The Cullinan Ranch Draft EIR/EIS is now available for review. This document describes the environmental impacts of a proposed 1,500+ acre project located west of the Napa River and north of Highway 37 (Sears Point Road), adjacent to the City of Vallejo. This document will serve as the Master EIR for the Cullinan Ranch area.

The land is currently used for dry farming. The proposed project includes a complex of waterways, 4,500 residential units on 568.5 acres, 70 acres of waterfront commercial uses including hotel, restaurants, shops, offices, marina service and storage facilities, 1,600-1,700 boat berths, 304.5 acres of open space, 95.5 acres of park land, two elementary schools and one junior high school.

Primary areas of adverse impact include water quality, geology and seismicity, traffic, urban services, and land use.

A Technical Appendix is also available for review. The Appendix includes more detailed information submitted by the applicant as well as back-up data from the City's environmental consultant. A list of the contents is included in the EIR/EIS.

The City's public hearing on the Draft EIR/EIS has been tentatively scheduled for 7:30 p.m., July 6, 1983, before the Planning Commission, Council Chambers, City Hall, 555 Santa Clara Street, Vallejo. A presentation on the Project and on the EIR/EIS is scheduled for May 17, 1983, at 7:30 p.m., before the Planning Commission. At this time, the project and the concerns addressed by the EIR/EIS will be described.

79

The Draft EIR/EIS and Technical Appendix are available for review at the locations listed below. Please call for business hours.

- 1) J.F.K. Public Library, 505 Santa Clara Street, Vallejo, (707) 553-5348
- 2) Planning Department Office, 555 Santa Clara Street, Vallejo, (707) 553-4326.
- 3) Army Corps of Engineers, 211 Main Street, San Francisco, (415) 974-0444
- 4) Napa Library, 1150 Division Street, Napa, (707) 253-4241
- 5) Marin Civic Center Library, Administration Building, Civic Center, San Rafael, (415) 499-6058
- 6) Berkeley Public Library, Shattuck & Kittredge, Berkeley, (415) 844-6100
- 7) Solano Community College Library, Suisun Valley Road, Fairfield, (707) 864-7000

*Dear Ann:  
Thank you for this literature on the "Cullinan Ranch" development. Unfortunately, I will be on vacation May 17th; otherwise, I would be there.*

*Count me in, as one who is for this development. It will finally make Vallejo the wonderful growth town that it should become.*  
J. Pritchett

Deadline for comments is July 1, 1983. Mail comments to Ann Merideth, Planning Department, P.O. Box 3068, Vallejo, CA 94590. If you have any questions, please call Ann Merideth, (707) 553-4326.

HAL A. BOEX  
Business Development  
and Planning Director

**LETTER #1-18**

79. Comment noted.

194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

80

Dear Planning Commission, 6/8/83

After reading that you were consider-  
ing developing your present +  
ecologically important wetlands  
into more concrete + black top I had  
to write to object strongly!

The Napa marshes must be saved  
for the benefit of us all - we need  
them, so do the animals! Ann Carpadakis

Ann S. Carpadakis  
22336 Cameron St.  
Castro Valley, CA 94546



*Karen Kinney Drellich*  
*Box 5226 - Walnut Creek, Ca. 94596*

Received  
6/10/83

+ C2

June 4, 1983

Planning Commission,  
Vallejo City Hall  
Vallejo, CA. 94590

re: Development of Cullinan Ranch

Dear Sirs:

The proposed development of the Cullinan Ranch poses yet more problems for the ecology of the already fragile balance of the waters of the San Francisco Bay and its supporting water areas.

81 Not only would the development create the domino effect of urban pressure on the surrounding wild life and agricultural lands, but removal of that land from farm production which would directly harm other agricultural operations which need and depend on local seeds and hay.

82 Direct problems which need addressing are those of possible seismic hazard and structural instability created when building in deep bay mud (Treasure Island is sinking); traffic congestion which would aggravate already existing problems on Highway 37 over the Napa River, the scene of many an uncomfortable driving problem for me personally; and economic burdens on the public to extend full urban services to that area.

83  
84 I am strongly opposed to this project and hope you will consider the opposition to this proposed development before issuing carte blanche for further rape of our natural and rapidly disappearing landscape.

Sincerely,

*Karen K. Drellich*

Karen K. Drellich

**LETTER #1-20**

**81. See response to comment 72.**

**82. Please see Response 9.**

**83. See Response to Comment 10.**

**84. Comment noted.**

PLEASE REPLY TO:  
DISTRICT OFFICE  
1243 ALPINE ROAD, SUITE 102  
WALNUT CREEK, CA 94596  
(415) 932-2837



# Assembly California Legislature

**WILLIAM P. BAKER**  
ASSEMBLYMAN, FIFTEENTH DISTRICT  
ASSEMBLY MINORITY WHIP

COMMITTEES: *Cv*  
WAYS AND MEANS  
CRIMINAL LAW AND  
PUBLIC SAFETY  
ECONOMIC DEVELOPMENT AND  
NEW TECHNOLOGIES  
CONSUMER PROTECTION AND  
TOXIC MATERIALS

July 7, 1983

Karen Drellich  
P. O. Box 5226  
Walnut Creek, CA 94596

Dear Karen:

Thank you for your nice letter and your comments regarding Cullinan Ranch.

The development of this property is under the jurisdiction of the City of Vallejo. Therefore, it is a local planning matter and does not involve a state agency.

However, I have taken the liberty of forwarding your letter to the City of Vallejo Planning Department so that they may be aware of your concerns.

I appreciate your taking the time to write and express your views. Thank you again for your letter.

Sincerely,

WILLIAM P. BAKER  
Assemblyman, 15th District

WPB:vms  
Copy: Vallejo Planning Department ✓

*Karen Kinney Drellich*  
*Box 5226 - Walnut Creek, Ca. 94596*

June 9, 1983

JUN 01 1983

Bill Baker, State Senator  
1000 Ygnacio Valley Road  
Walnut Creek, CA. 94596

re: Development of Cullinan Ranch

Dear Bill:

Remember me? We enjoyed lunch together at the Bank of Walnut Creek through the kindness of Jim Ryan. I was impressed and admit I crossed my registered party line and indeed pushed down a dot next to your name. Now, I am going to ask your help--or rather, request that you do indeed represent my interest in the government body to which you were elected.

85

My concern is the development of the Cullinan Ranch. It happens to be one of the most delightful areas through which I pass on my frequent journeys to the wine country, Renaissance Pleasure Faires, Scotch Gathering and Games or quilt shows at Santa Rosa, or Sears Point. There has always been something serenely pastoral and unspoiled about that area. That there should currently be a move afoot to destroy that natural beauty is of great concern to me. The fact that my small gas-conserving auto does tend to hit a sizeable and unpleasant bump as I cross onto the western side of Highway 37 just over the Napa river hardly seems need to punish ranchers, taxpayers, and the ecology as well.

It would be more than a shame to see the urban crunch crush out the cranes who loll there; and just as bad (if not worse) to remove that land which is being used as agricultural from production and penalize both producer and the buyer depending on that seeds and hay.

Planning such an ambitious undertaking on what would be fill in view of our earthquake status and the continual sinking of Treasure Island is more than courting danger. Sinking 50 to 90-foot piers in such a fill is hardly an answer to a much deeper problem. That area is not able to handle well what traffic it has to cope much less more. The congestion would doubtless ruin the verdant beauty of the Columbus Parkway with exhaust fumes. And if that wouldn't be enough of an insult the injury of encumbering taxpayers with the financial burden of having to pump sewage uphill would surely create a stink of great magnitude.

Please help to preserve this piece of land in its current status. The development would be in the interest of very few and to the detriment of many. I am asking you as my personal representative to wield as much power as possible to prevent the rape of that precious land.

Thank you and sincerely,

98

*Karen Drellich*

**LETTER I-21**

**85. Please see response to comments 9 and 10.**

X  
CI

June 20, 1983

Ms. Ann Merideth  
Planning Department  
P. O. Box 3068  
Vallejo, CA 94590

Dear Ms. Merideth,

I am both a citizen of Vallejo and a professional biologist. I wish to contribute my comments and concerns on the Culinan Ranch Development Proposal before you now. I feel that the EIR has inadequately addressed a number of issues critical to our community.

86

- . How can a 100% increase in traffic on Route 37 not increase accidents and congestion?

87

- . Inadequate geotechnical data has been provided in order to conclude that the occurrence of an earthquake will not damage homes, roads and utilities. All of which the taxpayer ultimately pays the repair bill for.

88

- . This is diked historic tidelands which could be returned to tidal action if no longer used for agriculture. The proposed development virtually eliminates this option.

89

- . Allowing this development to occur at this location sets a precedent for development in the San Pablo Bay Region. The marshlands of the Bay have all ready been reduced 80%. They are critical to the quality of our life in Vallejo.

Attached you will find my specific comments and questions concerning the Water Quality Section of the EIR. The largest single problem is: How will the water quality be protected

## DEMGEN AQUATIC BIOLOGY

118 Mississippi St. Vallejo, CA 94590

(707) 643-5889



during the first twenty years, the construction period, before the second tidegate becomes functional?

Sincerely,

*Francesca C. Demgen*

Francesca C. Demgen

FCD:clt

Enc.

cc: Karen Mason, Army Corps.

Mike Rugg, California Fish and Game

Ruth Pratt, U.S. Fish and Wildlife

Alan Pendleton, BCDC

Vallejo City Council

Rep. Tom Hannigan

Rep. Barbara Boxer



**DEMGEN AQUATIC BIOLOGY**

118 Mississippi St. Vallejo, CA 94590

(707) 643-5889

Comments on the Water Quality Section  
of the Cullinan Ranch Environmental Impact Report

90 In any restricted impoundment of water circulation and flushing are critical to maintaining adequate water quality. This topic is indeed discussed at length in the EIR. Maximum residence time at project completion will be seven days. This is deemed adequate for promoting good water quality. However, the developer estimates that it will take twenty years to finish the project and the tidegates at the northwestern end will not substantially affect the flushing until the project is completed. These tidegates will not be able to be installed until the project is half completed. Therefore, residence times within the impoundment at partial project stages will be up to twelve days, nearly twice that at completion. This may likely create conditions conducive to water quality problems such as algal blooms, odors and depressed dissolved oxygen levels. These conditions could also affect Dutchman Slough and the Napa River.

91 The statistics and formulas used to calculate the potential algal growth given the above residence times, under various flushing regimes in the EIR Appendix is based on sampling done in the Carquinez Straits. The major factor in the formula used is the Extinction Coefficient which applies to the fraction of light reduction for each successive foot of depth. However, data



**DEMGEN AQUATIC BIOLOGY**

118 Mississippi St. Vallejo, CA 94590

(707) 643-5889

gathered from Carquinez Straits, a very turbulent and high velocity waterway would not be at all applicable to the project site which is an enclosed body of water subject to only partial flushing. Turbidity here will probably be much less due to settling. Therefore, more data is necessary in order to make accurate predictions.

92

Maximum project depths will be in excess of twenty feet. Under these circumstances stratification of temperatures and dissolved oxygen levels may exist. This can be the source of odor problems due to hydrogen sulfide production in anaerobic sediments. No provisions appear to be stated in order to prevent this condition.

93

Very little water quality data is included for the Napa River, Dutchman Slough or impounded sites similar to the project. This makes accurate prediction of resultant conditions difficult. Even a good computer model is only as good as its input data.

94

In order to minimize the effects of nonpoint source urban runoff pollutants, the discharge from storm drains should be made outside the project impoundment.

The Corps permit should require a water quality sampling program which would include pre-project conditions in Dutchman Slough. Monitoring should be delineated for at least two stations in the project from start-up through project completion.



**DEMGEN AQUATIC BIOLOGY**

118 Mississippi St. Vallejo, CA 94590

(707) 643-5889

Review of Primary Questions

1. How will adequate water quality conditions be maintained prior to installation of the northwest tidegate?
2. How will algal blooms, anaerobic dissolved oxygen conditions and odors be minimized? How will they be dealt with if they occur in order to minimize the impact on adjacent waterways?
3. Should not the storm water drainage be discharged out of the project site?
- 95 4. Should not a pre-project and construction phase water quality sampling program be required?



**DEMGEN AQUATIC BIOLOGY**

118 Mississippi St. Vallejo, CA 94590

(707) 643-5889

**LETTER #1-22**

86. With respect to traffic congestion, please see the Response to Comment 10.

Concerning traffic accidents, an increase in traffic volumes would probably result in a proportional increase in traffic accidents. Thus, a 30% traffic increase on a roadway segment would probably result in a 30% increase in accidents along that segment.

Although research is limited, there is some indication that increased congestion can increase the frequency of accidents, but reduce their severity (ITE, Transportation and Traffic Engineering Handbook, 1976). A more detailed discussion of accident rates would require a comprehensive analysis of specific accident characteristics and vehicle speeds.

87. Please see Responses 9 and 39. Further proposed geotechnical studies are outlined in the Geotechnical Appendix (IV.J.) of this Comments and Responses document.

88. It is true that development of the Cullinan Ranch site would result in the loss of an area which is potentially restorable to tidal marsh. According to the project proponent, however, the proposed project is not responsible for eliminating the potential to restore the site to a productive salt marsh habitat. Such a decision and action has already been taken in regard to the property under the Cullinan Ranch Boundary and Exchange Agreement in which Coon Island was given to the state as wildlife habitat (see Appendix IV.F). This interpretation of the Agreement has not been supported by some commenting agencies (e.g., U.S. Fish and Wildlife Service Port, pers. comm).

89. Comment noted. For a discussion of why other lands in this area may not be readily developable, please see response to comments 49 and 144.

90. Tide gates would be installed at the northwestern end of the project when the project is half completed and relocated with each subsequent project expansion. However, because the channel volumes have been increased since the original Krone/RMA study was made, residence times will be greater than seven days. Additional studies taking account of the new channel configuration were made by Krone/RMA and indicate a maximum residence time of 10 days (See Appendix III.B. of the Draft EIR/EIS). Evidence at a similar development, Bel Marin Keys, indicates that no significant adverse impacts on water

quality will occur with these longer residence times.

91. It is difficult to know if the use of a light extinction coefficient from Carquinez Strait is appropriate. Whether it is or not the model used to calculate the growth of algae, while the best available, is still subject to several technical limitations noted in Appendix III.B of the Draft EIR/EIS. Probably a better indicator of whether nuisance growths of algae will occur is comparison with similar circumstances elsewhere in the Bay. The nearest comparable development, Bel Marin Keys, with a lower circulation rate than that proposed for the project, does not experience severe nuisance algae problems.

92. It is expected that water in the project channels in common with the Bay itself will be well-mixed vertically. It is estimated that summertime dissolved oxygen levels will not be depressed below 5.0 mg/s.

93. It is true that the accuracy of predictions using the water quality model would be improved if more water quality information was available. However it is doubtful that the results of the analysis would be altered significantly because the data used reasonably represents likely conditions.

94. While some water quality benefit to the project lagoon might result from this suggestion it is doubtful if it is technically or financially feasible. Another viewpoint is that diverting stormwater away from the lagoon would prevent early recognition of a pollution problem. Krone/RMA believe that storm water discharge will not result in water quality problems in the lagoon.

95. Such a program is proposed as a mitigation measure in the Final EIR/EIS (page 42).

C1

Ann Merideth  
Planning Department  
P.O. Box 3068  
Vallejo, CA 94590

July 6, 1983

Re: Cullinan Ranch Draft EIR/EIS

I have been asked by the Save San Francisco Bay Association to review the sections on Geology and Seismicity of the Cullinan Ranch DEIR and offer the following comments.

The DEIR does not ~~not~~ adequately address two key issues, potential damage to structures and utilities from the effects of ground shaking and the potential for liquefaction. The DEIR states (p. 59) that "liquefaction should not impact this site" and that impact from ground shaking "on structural adequacy can be mitigated to an insignificant level". In making these assertions, the DEIR overlooks a number of factors critical to an analysis of seismic impacts. The DEIR should not be certified until these points are addressed.

96

1. The DEIR does not consider historic activity on the Rodgers Creek Fault and the likely impact on Cullinan Ranch of earthquakes on this fault.

The DEIR mentions historic activity only on the San Andreas, Hayward, Calaveras and Concord faults (p. 52), not the Rodgers Creek Fault, although the latter is the closest fault to the site and the HLA Soils Report notes that two damaging earthquakes occurred on the fault in 1969 in Santa Rosa.

The Rodgers Creek Fault is an active fault capable of damaging earthquakes. In addition to the earthquakes of magnitudes 5.6 and 5.7 in 1969, a magnitude 4.6 occurred in 1968 and 23 earthquakes of magnitude greater than 2.5 have taken place since 1961.\* The 1969 earthquakes severely damaged Santa Rosa and were felt from Pt. Arena to San Jose. Property damage was estimated to be \$6-10 million, including significant structural damage to three relatively new earthquake-resistant buildings.

The sections in the DEIR on seismicity should be revised to include the effects of earthquakes on the Rodgers Creek Fault. Earthquakes comparable to those on the Hayward Fault can be expected and should be considered in evaluation of seismic risk and engineering design.

97

2. The DEIR does not adequately assess the likelihood of severe ground shaking at the site.

Since ground shaking is the cause of the most widespread damage to structures in an earthquake, it is essential that impacts be correctly identified and mitigated. As presently written, the DEIR minimizes such impacts. The DEIR argues that since soft bay mud attenuates high frequency ground motions, "the impact that the ground shaking would have would not be significant" for structures of five stories or less (p. 59). No mitigation is proposed for the impact from ground shaking.

\* Cloud, W.K. et al., 1970. The Santa Rosa Earthquakes of October 1969. Calif. Div. of Mines and Geology, Mineral Information Service, v. 23, no.3.

This assertion is contradicted by the HLA Soils Report which states (p.13): "Strong ground shaking from an earthquake generated on the Hayward, San Andreas, Green Valley or Rodgers Creek faults is probable during the average life of the planned structures (50 to 100 years) and represents a primary seismic related geologic hazard at the site". The HLA Report notes that "bay mud damp(s) out high frequency motion", and it is apparently on this basis that the DEIR concludes that ground shaking would not be significant.

This analysis, however, considers only attenuation of ground motion, and does not take into account increases in the amplitude of seismic waves that can occur in bay mud. The amplitude affecting a site is dependent on three factors: how high the attenuation (damping) is; how thick the underlying unconsolidated deposits (alluvium and bay mud) are; and how low the velocity of the seismic waves are. Increases in amplitude due to velocity changes may more than compensate for attenuation of high frequency motion.

Studies by the U.S. Geological Survey (USGS) for reduction of earthquake hazards in the San Francisco Bay Region\* show that thick deposits of unconsolidated materials, such as bay mud, can substantially amplify ground shaking in certain frequencies. Large seismic amplifications can be expected where impedance contrasts between geologic units are high. Data from seismic waves produced by nuclear tests show that maximum amplifications recorded at sites underlain by bay mud are 5 to 8 times larger than those recorded on nearby bedrock.

At the Cullinan site, a large increase in amplitude can be expected due to impedance contrast between bedrock and the overlying alluvium and bay mud. As high frequency motion is attenuated in the bay mud, amplitudes will increase and may build up significantly at the surface.

Furthermore, the total thickness of bay mud overlying bedrock must be known to evaluate the extent to which the seismic waves are attenuated and the amplitudes increased. The thickness of bay mud is not known at the site because none of the boreholes drilled by HLA penetrated to bedrock. The mud is at least 110 feet thick (the depth of the deepest borehole), but may be several hundred feet thick (HLA, p. 11).

Detailed studies, including determination of depth to bedrock and response of substrate to changes in amplitude, are essential before the extent of ground shaking in a large earthquake can be estimated. The HLA Soils Report notes that a detailed seismicity and ground response analysis was not performed (p. 14). Additional studies should be performed before the DEIR is certified, because if significant impact from ground shaking due to increased amplitude is likely, ground shaking should be included as a significant adverse impact and mitigation proposed.

98 3. The DEIR does not adequately address the potential for liquefaction at the site.

The DEIR argues that "liquefaction should not impact this site" on the grounds that sand lenses are "not continuous nor extensive"(p.59). This

\*Borcherdt, R.D., ed., 1975, Studies for Seismic Zonation of the San Francisco Bay Region, U.S. Geol. Survey Professional Paper 941-A.

conclusion is unwarranted on the basis of evidence in the HLA Soils Report and on the extent of coring performed to date.

A 4' thick sand lens was encountered in Boring No. 2 (HLA, p. 15; Plate A-2) which was "judged likely to liquefy during a strong earthquake" (HLA, p. 15). Eleven of the 16 deep boreholes drilled by HLA encountered lenses of sandy silt in the interval roughly between -30' and -90'. The thickness of these lenses is not given.

A USGS study of the liquefaction potential of sediments in the San Francisco Bay Region\* shows that granular layers in the bay mud have a higher potential for liquefaction than other types of sediment. "Beds of loose, water-saturated, well-sorted silt and sand within ... 100 ft of the ground surface" are most likely to liquefy (p.47).

The extent of lenses of sandy silt beneath the Cullinan site cannot be adequately determined without additional subsurface data. Sand lenses such as those being deposited today in Dutchman's Slough (and as found in Boring 2) are not likely to be found with borings spaced 1300 ft apart. It is essential that all old channels be identified and mitigated to reduce the potential for liquefaction. The DEIR itself states that there was "a very small sampling of the total volume of soil throughout the project" (p. 53).

Before the DEIR can be considered satisfactory, additional borings should be required to delineate the extent and thickness of sand and silt lenses beneath the site. The DEIR cannot adequately discuss the impact of liquefaction and mitigation measures until this information is known.

In addition, the DEIR should require mitigation for liquefaction, specifically the remedy suggested by the soils consultant: "this sand deposit and any similar deposits encountered during excavation will need to be removed during construction" (HLA, p. 15). The extent of this mitigation should be determined before the DEIR is certified. Liquefaction should appear as a significant adverse impact on the summary of such impacts on p. S-8 of the DEIR.

99 In summary, the DEIR is based on insufficient geotechnical studies to permit adequate discussion of seismic impacts and mitigation. The 17 borings taken to date show substantial differences in soil profile from boring to boring, indicating highly non-uniform subsurface conditions. Additional borings need to be taken and should be made before the DEIR can be considered complete because the geologic and seismic impacts of the additional geotechnical data should be discussed in the DEIR.

Sincerely,



Doris Sloan, Ph.D.  
1327 Josephine St.  
Berkeley, CA 94703

\*Youd, T. L. et al., 1970, in Borchardt, 1970, op. cit., p. 68-74.

**LETTER #1-23**

96. Concern has been expressed regarding the need for further study of the Rodgers Creek Fault. While this fault will impact the Cullinan Ranch property as indicated in Chapter III-3, the more severe or "design" ground motions may be generated from the San Andreas Fault, rather than the Rodgers Creek Fault, due to larger potential magnitudes and longer duration. Real concern relating specifically to Rodgers Creek Fault is that it does not pass through the site, but is located about four miles west of the project.<sup>1</sup>

97. Please see Response 9 for information on seismic ground-shaking and the Appendix IV.J for an outline of proposed further studies.

Of other concern with respect to the effects of ground-shaking would be the exposed earth slopes adjacent to waterways. Significant experience has been gained from similar marina development elsewhere in the bay area. Proven design and construction techniques are available to mitigate the potential adverse effects. These techniques include limiting the slope height and steepness, providing structural reinforcement, and maintaining safe setbacks for buildings. These have all been considered in the project planning, and specific design parameters will be provided in the final soil investigation.<sup>2</sup>

98. Please see Response 41.

99. Please see Response 39 and the Geotechnical Appendix (IV.J.) of this Comments and Responses document.

---

<sup>1</sup>Dennis H. Furby, CE 24480, Harding Lawson Associates, letter to W. R. Williams, Inc., August 26, 1983.

<sup>2</sup>Furby, op. cit.

Notice

8 July 1983

U.S. Army Corps of Engineers  
211 Main Street  
San Francisco, California 94105

Gentlemen:

I am writing to protest vigorously the Cullinan Ranch Proposal.

100 There are no benefits whatever to such a venture and the affect in excessive traffic, and destruction of wildlife, the eventual financial impact it will have is a totally unacceptable prospect.

I wish my voice to be added to others who are protesting this action.

Yours very truly,

*Lorraine Weir Ditta*

Lorraine Weir Ditta  
134 So. Seymour Street  
Napa, California 94558

lwd

**LETTER #I-24**

100. See Responses to Comments 10, 120, and 30-38.

925 Euclid Street  
Fairfield CA 94533  
8 July 1983 Notice

US Army Corps of Engineers  
211 Main Street  
San Francisco CA 94105

Gentlemen:

Comments to Environmental Document:  
Cullinan Ranch Project

Please add this voice in opposition to  
the proposal.

101 It seems clear that the destruction  
of this unique area would have an  
impact on wildlife that could not  
be compensated or reversed.

102 Cannot the beauties of this (almost)  
natural place be preserved so that  
the San Pablo Refuge and the Tule  
Island preserve can continue their  
mission? Who is empowered to  
destroy the intent of those areas?

Yours truly  
JW Brady  
RH Brady  
J. M. Han

**LETTER #1-25**

101. Comment noted.

102. The San Pablo Bay National Wildlife Refuge and the Lower Tubbs Island Preserve would continue to be managed by the U.S. Fish and Wildlife Service. See also Responses 45, 46, and 48.

The Cullinan Ranch is one of nearly 200 privately claimed landholdings in the Napa Marsh area. The decision to permit its development lies with the City of Vallejo and the U. S. Army Corps of Engineers as well as other State and Federal regulatory agencies. For a complete list see page 1 of the Final EIR/EIS. Most of the rest of the Napa Marsh area lies outside the City and Solano County boundaries.

David W. Mayfield  
555 Moscow Street  
San Francisco, CA 94112

*Copy*

July 8, 1983

Mr. Roger Golden:

103 I appreciate the opportunity to comment on the DEIS for the Cullinan Ranch. Although I read East Bay Today and the San Francisco Progress, I did not find out about the project early enough to be involved in scoping. Did you advertise the Notice of Intent/Preparation in either of these papers?

103 I would have wanted to be involved in scoping because it seems obvious to me that a full range of alternatives, as required by NEPA, was not presented in the DEIS. Rather, we have 3 intensely developed alternatives and the no project alternative from which to choose.

If the Notice of Intent was not advertised in either of the two papers that I regularly read, then I submit that I have the right to offer an alternative for consideration at this time, as outlined below:

The Mitigated Residential and Marina Development

1. 75 clustered residential units
2. 125 berths
3. Development restricted to the eastward 100 acres.
4. Restoration of remaining Cullinan Ranch to tidal action.

In addition to providing a fair tradeoff between wildlife values and development, this alternative would reduce significant traffic and aesthetic impacts.

Besides not analysing a full range of alternatives, the EIS provides insufficient coverage of the following issues:

- 104
1. The no project alternative is not given equal weight compared to the other alternatives.

For instance, it is assumed that marsh restoration might result from "no project". In detail, what would be the biological impacts of restoration, specifically with regards to efforts to replenish populations of rare species that are dependent on our diminished marsh habitat. That is, how many clapper rail, salt marsh yellowthroat, tri-colored blackbird, and salt marsh harvest mouse could we expect to inhabit 1493 acres of restored tidal marsh?

105 2. Marine biological studies are woefully lacking, both in extent of study area and level of detail. According to the appendix, Cullinan Ranch Wildlife Monitoring Program, "little is known about the fishes of the northern part of the San Francisco Bay, especially in the shallow waters and sloughs." The report ignores offsite impacts of 1700 boats and non-point source pollution on the marine organisms of the sloughs, Napa River and San Pablo Bay. A 1977 Fish and Game report (The Natural Resources of Napa Marsh) rates non-point source pollution as a major problem confronting wildlife management in this area.

106 Napa Marsh and the North Bay is well known as a nursery area for Dungeness crabs, striped bass, salmon and other economically important species. Will increased shore erosion and turbidity, and decreased water quality at offsite locations have a significant adverse effect on any important species? I don't recall that boat traffic speed and patterns were analysed outside of the project entrance.

107 3. Where will 13.2 million cubic yards of fill come from? The fill is an integral part of the project and impacts to the borrow site may be very substantial. Also, quality of fill has obvious implications.

The following comments are directed at specific areas of the report:

108 Page S-1. Concerning need for project, is there any evidence that additional housing needs in Vallejo cannot be accommodated by upland sites?

109 Exhibit II-6. State Highway 37 is shown as a six-lane road with shoulders. Will the expected widening occur on Cullinan Ranch land, or on tidelands to the south? Who will pay for the widening-- the developer or State taxpayers? I assume that no Federal money would be available for road widening because this project does not comply with Executive Orders 11988 and 11990.

110 Page 37. Water quality "constituents are transported out of the project into the adjacent sloughs ." Development of Cullinan Ranch would result in a significant adverse impact to the offsite water quality that cannot simply be mitigated by a monitoring program in the sloughs. If the project is built and the biota in Dutchman Slough are drastically affected, what then? Close the marina? Hardly likely.

Page 41. Water quality mitigations concentrate on getting pollutants out of the lagoon (by flushing) and into the surrounding natural environment. While pleasant for the residents, the effect on the surrounding environment is adverse. Can the likely offsite areas of impact be mapped and compared to maps of important biological habitat?

- 111 Page 15. The Vallejo General Plan states that "Proximity to wetlands will necessitate buffering the wetlands from more intense urban uses." Please note that the wetlands to the north and west are not buffered by the project as planned and thus the project is inconsistent with the plan.
- 112 Also, is there a conservation or parks element to the City or Countys general plans that would be relevant to the discussion of plan conformance?
- 113 Page 30. There are more than 2 ways for oil and gasoline spills to occur in a marina, e.g., faulty equipment on the boat, and carelessness.
- 114 Page 34. The project is designed to accommodate 10 feet of sedimentation--over 3 cubic yards for every square yard of channel bottom expected to accumulate within 20 years. Where will this sediment come from? Shoreline erosion? I assume that the percent contribution from each source has been calculated.
- 115 Page 44. How much dredged material can be placed on the 88-acre site at the northwest end of the project before the elevation is raised too high to support marsh plants?
- 116a Periodic excavation of the dredging disposal site would ruin any chances of marsh restoration and thus the description of that area in this report as "open space wetland" is a misnomer and should be changed.
- 116b Page 45. What are the environmental impacts of dredging Dutchman Slough "to provide sufficient depth for boats at low tide"? What are the environmental impacts of shoreline erosion in Dutchman Slough?
- 117 Page 53. Monitoring in the South San Francisco Bay Area has produced evidence of regional subsidence, making some areas increasingly flood-prone. Has similar monitoring occurred in the Napa Marsh area? If not, what is the potential for regional subsidence?
- 118 Page 59. How can liquefaction be adequately addressed without knowing the source of fill?
- 119 Page 71. The last paragraph implies that bird fly-over height is higher than proposed landscaping and structures and thus impact on migration is unlikely; but the wildlife appendix suggests that the wildlife analysts themselves may have produced enough of a disturbance so as to affect flyover height. Yet on this page it is understated that the birds may be sensitive to new land uses and/or activity on the ground. I suggest that it can be predicted that the development will affect bird movements.

120 Furthermore, increased boat use offsite will adversely affect those bird species that are especially sensitive to human proximity, especially flocking birds. Consider the following species, observed on or immediately adjacent to Cullinan Ranch, that are either rare, threatened, endangered, or species of special concern:

Observed on Ranch

White pelican  
California gull  
Burrowing owl  
Short-eared owl  
Marsh hawk  
Cooper's hawk  
White-tailed Kite

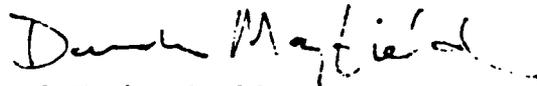
Directly adjacent

Clapper rail  
Black rail  
Salt Marsh Yellowthroat

121 Page 84. LOS E and F will severely impact persons that commute to work using Route 37 past the project site. What will the traffic impacts be on Route 37 west of the project? What percentage of trucks use the route during what hours? What will be the economic effects of traffic delays on the trucking industry?

In addition to these specific comments, I would like to point out that mitigations suggested in the EIS are usually written such that the developer or the City "should" do X rather than that they shall do X. The wording in the mitigations, in general, leaves us with a lot of unenforceable suggestions.

Sincerely,



David W. Mayfield

**LETTER #I-26**

103. The City did not advertise the Notice of Preparation in either of the two papers indicated in the comment. The Notice was sent to state and federal agencies and interested organizations. The Corps of Engineers advertised the Notice of Intent and Public Scoping Meeting in the Federal Register. The Draft EIR/EIS was advertised in the Vallejo Independent Press on May 13, 1983.

The City has developed an additional alternative discussed in the revisions to the draft as Alternative "E". This alternative is a scaled-down version of the project which would preserve approximately 629 acres in agricultural uses. This alternative is described in the text on page 10.

104. Alternative D, the "no project" alternative, would mean that no new development would be undertaken on the Cullinan Ranch, and that the existing land uses (agricultural, open space, wildlife habitat) would remain. It cannot be assumed that marsh restoration might result from the no project alternative.

If agricultural operations were to become economically infeasible, and/or a public agency or private entity were interested in purchasing the site, the area could be returned to tidal action by breaching the levee along Dutchman Slough and by implementing a salt marsh restoration plan. The number of rare or sensitive species that would inhabit the restored marsh would depend on the type of restoration plan implemented and on the kinds and mixes of habitats desired.

105. Comment noted. The Final EIR/EIS includes more detailed information on the fishes found by Harvey & Stanley Associates (1983) in Dutchman Slough (see section on Vegetation and Wildlife). For further information and life history data, see Appendix IV.L. Pages 62-67. See also Response to Comment 50 for fishery information in the Napa River system and 54 for impacts to fish and aquatic resources resulting from boats.

106. Increased shore erosion could be minimized by imposing speed limits on all boats traveling in the sloughs. The mud banks of the sloughs would be more susceptible to erosion than the dikes.

Boats moving at the speed limit would not affect turbidity. Algal blooms could occur within the project waters unless flushing and light limitation from turbidity restrict algal growth. Significant algal blooms are not expected to develop for Alternatives A, B and E since the continual supply of suspended solids with the incoming tides and tidegate flows probably would keep turbidity high in the project waters. Problems could develop for Alternative C, however, unless adequate tidal flushing is provided. Algal blooms can cause odors and deoxygenation of the water column during the night. Depletion of oxygen can cause fish kills as well as the deaths of other aquatic organisms dependent upon oxygen. For further information see the Water Quality section of the Final EIR/EIS, pages 37-42 and RMA/Krone study included in the appendix to the Draft EIR/EIS.

While increased shore erosion and turbidity are not expected to have a significant impact on the aquatic resource for Alternatives A and B, a reduction in water quality could have substantial impacts for all four alternatives (see response to comments 50 and 54).

107. Please see Responses 25 and 57.

108. Numerous other housing developments are being proposed in Vallejo which will contribute to the city's ability to meet its housing demands indentified in the housing element of the General Plan. Appendix IV.D is a list of current subdivison activity in the city. However, the proposed project is a marina-oriented community. The other subdivisions being proposed throughout the city are all upland sites and would not allow a water-oriented community to be developed.

109. See Response to Comment 29.

110. Certain contaminants that find their way into the lagoons could exit to the Bay via the adjacent sloughs. It is not expected that the amount of contaminants will be great enough to significantly affect water quality in the sloughs although this possibility cannot be discounted completely. The monitoring program could lead to development of restrictions on certain activities within the project if undesirable changes in water quality or the biota are detected.

111. Under Alternatives A, B and C the project would not include adequate buffering and may be inconsistent with the General Plan. Alternative "E" would provide an agricultural buffer to the west of the project.

112. The City of Vallejo Comprehensive Plan 1983, contains a schools and parks element. Goals of the park portion of that element are "to have a park and open space system that is convenient and properly designed to serve the needs of all residents of the community." Specific policies to accomplish this goal are set forth in the Plan and include street access requirements, adjacent land uses, shop, and transportation linkages.

Alternatives A, B and C each contains both neighborhood and community parks to serve residents of the project and surrounding areas. Alternative "E" contains no neighborhood parks due to the reduced number of proposed residences and the ability of residents to use school playgrounds as park facilities, although the community park and marina park are included..

In addition to the parks to be provided by the developer, the project encompasses two state-owned parcels that will provide vehicle parking for persons seeking access to the dikes adjacent to Dutchman Slough, as well as the state right-of-way along the top of the dikes. The facilities will provide additional recreational access opportunities for the public.

Thus, the project appears to be consistent with the goals and policies of the recreation element.

113. Comment noted and text revised on page 30.

114. Approximately 80-percent of the sediment entering San Francisco Bay comes from erosion of soils in the 59,000 square mile Central Valley drainage basin. The remainder enters with runoff from local tributaries such as the Napa River. In the case of Cullinan Ranch waterways the sediment sources are the Napa River and incoming tidal flows from the bay. The proportion of sediment from each source is not known. As the velocity of flow decreases when water enters the project channels suspended solids settle out.

115. Ponds would be constructed on the 88-acre site for disposal of dredge spoils. If the dried spoils are allowed to accumulate in the ponds the surface level will rise between 0.5 and 1.0 foot each year during dredging operations. Thus the time for the surface to rise to a level appropriate for marsh plants would depend on the initial depth of the ponds. When the appropriate elevation had been reached and the area restored as marshland, dredge spoils would have to be placed elsewhere.

116a. Agree. Text altered.

116b. See response to comment 1 regarding effects on Dutchman Slough.

117. As far as has been determined, there is no subsidence monitoring program underway in the vicinity of the Cullinan Ranch site; however, the project itself would not have the potential for causing regional subsidence. Settlement would be localized and controlled through project design.<sup>1</sup>

118. See Response 41.

119. There are likely to be changes in the flight patterns of birds between San Pablo Bay and the Napa Marsh due to development of the proposed site. Most birds observed by Harvey & Stanley Associates (1983) in other marinas flew at heights above 25 m (65 feet), not 75 m as stated on page 71 of the Final EIR/EIS. The majority of flights at Redwood Shores, for example, were primarily along the watercourses of the development, although birds also flew over the tops of structures and bridges. The potential for changes in the flight patterns of birds may be reduced by the implementation of the proposed mitigation which specifies the presence of open water passages, with no impeding structures, from the north to the south of the Ranch. See also Response to Comments 45, 46, and 48.

120. The Corps of Engineers has initiated a formal Section 7 consultation with the Fish and Wildlife Service regarding threatened and endangered species that may be affected by the proposed project. The potential impacts to rare and endangered species and other species of concern are discussed in Harvey & Stanley Associates (1983) final report, included in the Final EIR/EIS as Appendix IV.L (Pages 94-100). In summary the report says, the brown pelican is not expected to be directly impacted by the proposed development. The Cullinan Ranch site was not used by this species although brown pelicans were observed to use thermals above the Ranch to gain altitude. The proposed development may alter the pelican's use of the air space above the Ranch (i.e., it may avoid flying over a large developed area). The Corps of Engineer's Biological Assessment concluded that brown pelicans would not be affected by the proposed project.

California gulls were observed by Harvey & Stanley Associates (1983) on the Cullinan Ranch site and on the property adjacent to Cullinan Ranch, along the mudflats and in the open water of Dutchman and South Sloughs. California gulls are not expected to be

adversely affected by the project since they are not particularly shy or secretive birds and are known to frequent areas with a high degree of human usage (e.g., beaches).

Burrowing owls were found in low densities on the Ranch. The development would reduce nesting and foraging habitat, as well as eliminate prey items of this species. It is unlikely that the remaining levee would contain sufficient habitat for a healthy burrowing owl population.

Short-eared owls have been observed on the Ranch although there was no evidence of nesting during Harvey & Stanley Associates (1983) yearlong monitoring program. Development of the site would reduce foraging habitat as well as constitute an overall habitat reduction for the species.

Northern harriers (formerly known as marsh hawks) regularly forage over the Ranch, but are not known to nest there. Development of the site would result in a net loss of foraging habitat to the species.

Cooper's hawks were never observed on the Ranch although they may occasionally utilize the area for foraging, especially during the winter months.

Black-shouldered kites (formerly known as white-tailed kites) were observed occasionally foraging over the grain fields and shrub/levee habitat of the Cullinan Ranch. Foraging habitat would be reduced by the proposed project, although kites may continue to use the levee habitat if it sustained sufficient population of small mammals and human activity was minimal.

Only one clapper rail was heard during Harvey & Stanley's (1983) yearlong monitoring program. Although this individual was considered a nonresident, clapper rails may exist in the Dutchman Slough vicinity in low densities. The placement of tidal gates in the dikes could impact nesting birds. The marina entrance breach and boat traffic expected to pass in and out of the entrance would inhibit movement across the opening by clapper rails during the breeding season. Boat traffic and increased human activity, in general, would likely have an adverse impact on this species. The Corps of Engineers Biological Assessment concluded that the California clapper rail may be affected by the proposed development of Cullinan Ranch.

No black rails were heard or observed during the monitoring program; however, black rails were recorded near the western boundary of the Cullinan Ranch by Manolis (1977). The species is expected to be present in low densities in the South and Dutchman Slough vicinity. Potential impacts to this species resulting from the project would be similar to those affecting the clapper rail. The Corps of Engineers Biological Assessment concluded that the black rail may be affected by the proposed development of Cullinan Ranch.

Harvey & Stanley Associates (1983) found no evidence of nesting activity of the salt marsh yellowthroat along the sloughs bordering Cullinan Ranch. The species utilizes the shrub/levee habitat and tidal marsh along South and Dutchman Sloughs during the nonbreeding season and would be subject to disturbance during any construction and maintenance activities involving these habitats. Increased human activity along the dikes also may impact this species. The Corps of Engineers Biological Assessment concluded that the salt marsh yellowthroat may be affected by the proposed development of Cullinan Ranch.

121. The most significant traffic impacts (discussed in the Response to Comment 10) would occur along Route 37 east of the project.

Based upon the percentages of external trips and traffic distribution (outlined in Section III.H. of the Draft EIR/EIS Appendices), about 8,700 daily trips would be added to Route 37 west of the project site. With this traffic (and traffic generated by cumulative development) Route 37 would operate at service level F - extreme congestion.

Truck traffic counts were conducted by Caltrans in 1982. Truck volumes on Route 37 were 1,970 vehicles daily at Walnut (12-15% of total traffic) and 1,400 vehicles at Wilson (6-7%) of total traffic). The truck traffic is generally spread throughout the day with lesser volumes at night.

To the extent that traffic congestion delays truck travel, trucking would experience some economic effects. Such effects would however be limited to trucks traveling during the peak commute hours.

---

<sup>1</sup>Carl Neuhausen, W. R. Williams, Inc., telephone communication with EIP Corporation, January 16, 1984.

Copy

Comments on soils engineering aspects of the proposed Cullinan Ranch Development as covered in the draft EIR.

Prepared by Peter Ouborg on behalf of the San Francisco Bay Chapter of the Sierra Club.

Address: 2127 McGee Apt. E, Berkeley, CA 94703.

Qualifications: M.S. ( Civil Engineering ) U.C. Berkeley.  
Engineer-in-training.

### General Comments

Despite obvious budget constraints, as evidenced by the small number of borings, the soils investigation is thorough and comprehensive. It is the purpose of this commentary to compare the soils report with the draft EIR and to emphasise and expand on certain points.

To give an idea of the difficult, sophisticated and expensive engineering tasks demanded by the present proposal, I quote Lee and Pászker.

" Residential developments on fills placed upon bay mud are the most exacting of all possible uses. Any miscalculation, faulty placement or undetected condition may result in rapid deterioration of residential subdivisions beyond practical repair. " [ ( 1 ) p.50 ]

Thus, whereas the project may be "geotechnically feasible ", it is probably not realistic to expect careful adherence to the recommendations of the soils consultant.

### Settlement

122 ( a ) General.

Due to the plastic nature of bay mud, settlement predictions are uncertain, especially near fill boundaries, where lateral movement is possible. Lateral movement, a function of shear strength, is sensitive to the rate of loading. Lee and Praszker recommend a fill rate of no more than three feet per year [ ( 1 ) p.50 ]. Filling over a one year period, as mentioned on p.21 of the soils report would increase the possibility of boundary lateral flow.

The proposed development will have a disproportionately long shoreline ( approx. 100 ft per acre of fill ). This can be compared to former Yerba Buena Cove in San Francisco ( 31 ft per acre ) and Treasure Island ( 40 ft per acre ). Construction of such an extensive shoreline will have two consequences. First the risk of lateral movement is increased. Second, any benefit which might have resulted from support by the marsh crust is nullified since the crust will not be " preserved in its unbroken state " [ ( 1 ) p.47 ].

123 Secondary settlement potential should be investigated. According to J.E. Bowles " soil creep is a major portion of the total settlement for many organic or peaty soils " [ ( 2 ) p.300 ].

124 ( b ) Impacts. EIR pp.53 and 54

In order to achieve minimum flood elevations, actual fill requirements could well be greater the 16 million cubic yards, especially if settlements exceed predictions ( quite conceivable ) or if further investigations show that large volumes of peat must be removed. The nature of peat behavior at the site warrants much closer attention since only one consolidation test was performed ( Plate A36 soil report ) and hence there is no way of knowing whether this was a representative sample.

Differential settlements of the magnitude postulated in the soils report are unacceptable for structures and utilities. In the case of buildings with raft foundations supported on clay soils, studies show that differential settlement should not exceed  $2\frac{1}{2}$ " [(3) Table 5.5 ]. The soils report predicts as much as 6" across individual structures ( p.29 ). While not explicitly referring to differential settlement, the UBC limits deflection of structural members to less than L/240 which amounts to  $2\frac{1}{2}$ " over a 50 ft building [( 4 ) Section 2307 ].

125 Differential settlement impacts not mentioned in the EIR include the following. For buildings on piles, attached structures supported by bearing will settle at a more rapid rate thus rupturing the connections between the two. Tilting of flat roofs will result in poor drainage and ponding of water.

To emphasise the adverse impact of differential settlements on utilities it is worth noting that sewer grades are on the order of 5/1000 ( 1' over 200' ) which is in the range of grade changes expected.

( c ) Mitigations. EIR p.55

126 Despite implementation of the mitigation measures, above normal maintenance of buildings and utilities will be necessary. This will include leveling of houses, resurfacing of sinking slabs [ ( 1 ) pp.72-84 ] and possible replacement of gravity flow conveyances. For example, sewer mains supported on piles could cause streets to buckle upward as surrounding ground settles. In sum, the successful design of 4000 dwellings and their service utilities to offset the impact of differential settlements of the magnitude expected is an ambitious engineering goal in light of the special soil problems of bay mud sites.

If further investigation ( as recommended on p.55 of the EIR ) shows that the lower Young Bay Mud will contribute significantly to settlements after all, then ( 1 ) settlements will increase to as much as 5 ft and ( 2 ) these settlements will take place over a longer time [ ( 1 ) Fig. 1 and 2, pp.46 and 47 ].

#### Slope Stability

( a ) Impacts. p.56 EIR

127 An example of how cost will probably exclude some of the more sophisticated mitigation measures is found on p.56. The soils engineer states ( p.28, soils report ) that despite the expense, sheet pile bulkheads should be considered where space limitations are critical. Yet the EIR claims " this construction method was discarded in favor of using compacted fills due to cost ".

( b ) Mitigations. p.57 EIR

128 Since slope stability is<sup>s</sup> very sensitive to " small changes in strength in the upper layers of peat " ( p.25, soils report ) the need for more testing of this organic material is reaffirmed.

129 In the interests of safety, lagoon slopes will require periodic inspection and possible maintenance. Since there <sup>will be</sup> are about twelve miles of shoreline bordering

residential property, responsibility for this formidable task should be clearly designated.

### Seismicity

#### ( a ) General.

In his book [( 5 ) pp.84-89 ] P.I. Yanev gives a detailed assessment of earthquake risk at bayside residential developments. The conclusion he reaches is that these developments face " very great risks " from earthquake damage, despite being designed with " high risk in mind ". Referring to the soils report for the Redwood Shores development, he writes

" Although the advice in the report was sound, the building codes do not require such special provisions and it is therefore solely up to the developer to see that the recommendations are followed. Too often the economics of construction dictate that such additional precautions be disregarded." [( 5 ) p.85 ]

#### ( b ) Impacts. pp.58 and 59 EIR.

130 More extensive investigation is required to determine liqui<sup>e</sup>faction potential. According to H.B. Seed [( 6 ) p. 90 ], " liquifaction of saturated sands is a rather common phenomenon during earthquakes ". Certainly the statement in the EIR that " liqui<sup>e</sup>faction should not impact this site " is presumptuous since it is based on such a sparse sampling of soil. Local deposits of cohesionless soils such as those found at Boring No. 2 may occur at other locations. In addition, due to the very long shoreline proposed, the potential liqui<sup>e</sup>faction of deposits of sand near the exposed slopes increases <sup>the</sup> ~~to~~ chance of failure there.

Whereas shear displacements at the surface are unlikely, Seed [( 6 ) p.89 ] recommends considering a possible vertical surface displacement of two feet. A subsidence of this magnitude would increase the chance of flooding.

131 The statement in the EIR (on p.59) that surface accelerations will be less than those of the bedrock has no basis in the soil report or when compared

to past experiences during earthquakes. The soil report makes no conclusion as to ground acceleration and admits that " a detailed ... ground response analysis is beyond the scope of this report " ( p. 14 ). According to Yanev [ ( 5 ) p.84 ], surface accelerations at Redwood Shores were five to eight times stronger than those in bed rock areas equidistant from the epicenter.

132

The following seismic impacts are not mentioned in the EIR. As discussed above, large differential settlements across structures could impose failure level stresses on certain elements. In the event of an earthquake , such prestressed buildings are more likely to undergo damage or failure. Earthquake shaking could induce lateral flow of mud at fill boundaries causing catastrophic settlements. From a structural standpoint, such large and sudden settlements as occurred in San Francisco in 1906 [ ( 7 ) p.103 et seq. ] , are potentially more damaging than inertial forces due to ground accelerations.

( c ) Mitigations. p.59 EIR.

133

As pointed out, up to a point sudden ground settling can be mitigated by properly placed and compacted fill. It is not practical, however to design buildings to withstand large and abrupt bearing displacements. Risk of damage in such cases is inherent <sup>to</sup> on bay mud sites.

#### Site Innundation

( a ) Impacts. p.60 EIR.

Obviously if settlements exceed predictions, the site may be liable to flooding.

( b ) Mitigation. p.60 EIR

134

Any estimate of a margin of safety over-and-above the minimum safe site elevation, in addition to allowance for normal error should include consideration of the following.

- (1) Secondary settlement and compression
- (2) Fill settlement
- (3) Seismic displacement ( see above )

References ( Referred to by numbers in parentheses throughout text )

1. " Bay Mud Developments and Related Structural Foundations " by C.H.Lee and M.Praszker,CDMG Special Report 97, p.43.
2. " Physical and Geotechnical Properties of Soils " by J.E. Bowles, Mc Graw-Hill, 1979.
3. " Foundation Analysis and Design " by J. E. Bowles, Mc Graw-Hill, 1977.
4. "Uniform Building Code " 1982 edition, International Conference of Building Officials, Whittier, California.
5. " Peace of Mind in Earthquake Country " by P.I. Yanev, Chronicle Books,1974.
6. " Seismic Problems in the Use of Fills " by H.B. Seed, CDMG Special Report 97, p.89.
7. " Seismic Risk to Buildings and Structures on Filled Lands in San Francisco Bay" by K.V. Steinbrugge, CDMG Special Report 97, p.103.

**LETTER #I-27**

122. Please see Response 42.

123. The Final EIR/EIS indicates that much of the upper part of the bay mud contains peat, and estimates approximately 22 percent. It should be understood that this is the EIR/EIS consultants' interpretation of the boring logs in HLA's report. Based on HLA's exploration of the site, the peat indicated within the upper bay mud is contained within a matrix of silt rather than in thick continuous layers of 100 percent peat. Typically, the peat occurs in isolated discontinuous pockets (see comment 449). Therefore, when excavated, this material can be easily mixed with other soils to provide a suitable compacted fill. If larger zones with high peat content are encountered during excavation, they will obviously have to be well mixed with other soil or disposed of outside the building areas; it is anticipated that this condition will be the exception rather than the rule.<sup>1</sup> Please see Appendix IV.J of this Comments and Responses for an outline of further proposed soil studies.

124. Please see Response 39 and Appendix IV.J.

125. Please see Response 42 and Appendix IV.J.

126. Please see Response 42 and Appendix IV.J.

127. Stability of channel slopes excavated through the soft mud has been evaluated for both static and dynamic (earthquake) conditions as summarized in HLA's soil investigation report. The recommended slopes and building setbacks being used for current project planning are feasible and have been successfully used in other similar developments around San Francisco Bay. Additional slope stability studies will be necessary where modifications are required by special circumstances.

With respect to channel slope stability, the most critical period is during excavation. The factor of safety against slope failures increases significantly after the channels are filled with water, and as the soft soils continue to consolidate and gain strength. Therefore, the stability of channel slopes will be even greater by the time the buildings are occupied.<sup>2</sup>

Design parameters for sheet pile bulkheads were provided only for feasibility studies of the general method; this is definitely not the only means of structural support for channel slopes. Other proven methods are available, each with their advantages and disadvantages, and the actual method(s) selected will be a function of final design requirements. Further, while the stability of sheet piles does depend on buttressing effect of soils in front of the wall, the risk of their removal is sufficiently remote to preclude mentioning; adequate factors of safety will be provided for final design.<sup>3</sup>

128. Please see Response 39 and Appendix IV.J.

129. Please see Response 1.

130. Please see Response 41.

131. Please see Response 9 for a discussion of ground motion at the site and Geotechnical Appendix for an outline of further ground motion studies.

132. Please see Response 9 and Appendix IV.J.

133. Please see Response 9.

134. The U.S. Army Corps of Engineers estimate of tsunami run-up is 3.3 feet above mean sea level (-4.2 Vallejo Datum) for the 100-year event at Cullinan Ranch and 3.7 feet above mean sea level (-3.8 Vallejo Datum) for the 500-year event. For discussions of fill, settlement, compression and seismicity please see Responses 9, 25, 42, 62, 117 and 123.

---

<sup>1</sup>Dennis H. Furby, CE 24480, Harding Lawson Associates, letter to W. R. William, Inc., March 17, 1983.

<sup>2</sup>Furby, op. cit.

<sup>3</sup>Dennis H. Furby, CE 24480, Harding Lawson Associates, letter to W. R. Williams, June 17, 1983.

12 January 1983

Christine S. Huddle  
Assistant Planning Director  
City of Vallejo  
City Hall  
Vallejo, CA 94590

Dear Christy,

This is in regard to the Environmental Impact Report currently in progress on the proposed development of the Cullinan Ranch (Island No. 1). As you are aware, I am doing graduate research in Energy and Resources at the University of California, Berkeley, and became aware of the proposed project while studying the resource management implications of alternative uses of the diked lands surrounding San Francisco Bay. Prior to doing this study, I had several years experience managing the Coastal Resources Enhancement Program of the State of California Coastal Conservancy.

Based on study of Bay resources and experience with marsh enhancement projects at the Coastal Conservancy, it is evident to me that the Cullinan Ranch site offers an excellent opportunity for a major marsh restoration project. If a change in the use of the area from agriculture is contemplated, restoration to managed marsh should be carefully considered. While I recognize that the "scoping" period for the EIR has passed, and that responses to the Draft EIR will not be solicited for some time, I am writing now to suggest that you do consider the desirability, in terms of the ecological and environmental health of the whole Bay and the Napa area in particular, of marsh restoration on the site.

The elevations of the site make it highly suitable for managed marsh with very little earthmoving. Existing elevations of zero (plus or minus one foot) over most of the site would allow it to flood and drain well through gates on South and Dutchman Sloughs. The pumps in the center of the site could accelerate drainage to Dutchman Slough when water levels are too low for efficient gravity drainage. Conversely, according to the developer's studies, the proposed development would require enormous quantities of fill to be imported (over 13 million cubic yards) to bring the land up to grades on which housing could be built.

Soils on the site appear similar to some of the more productive managed wetlands in the Suisun marshes, further indicating the feasibility of restoring valuable marshland on site. Similarly, the salinity range of the water in the sloughs bordering the site (based on my observations of the plants growing there) indicates that highly productive marsh, with good mixtures of plants providing food for waterfowl in all seasons, could be established.

12 January 1983

Page 2

The importance of the Cullinan site does not just derive from the 1500 acres of marsh that could be established or the opportunities which would be lost if that acreage were dredged and filled. I will not address the unfortunate precedent of starting major development along the shore between the Napa and Petaluma Rivers, the last open area on the shore of the Bay. I am not in principle opposed to development near the Bay shore. But the impacts of development should be assessed in terms of the potential benefits of marsh restoration, as well as the direct effects mentioned in the EIR scoping outline. 135

Development of the Cullinan Ranch would substantially cut off the Napa salt ponds and Napa River habitat areas from the mudflats, marshes, and open water of San Pablo Bay. It would thus diminish the habitat values of both the Bay and the salt ponds.

Conversely, marsh restoration would provide rich feeding grounds for waterfowl which rest on the Bay and take refuge in the ten thousand plus acres of the salt ponds. Marsh restoration would thus have benefits extending far beyond the site, and could be an important step in bringing back to the Bay the great flocks of waterfowl and the rich diversity of wildlife that early writers about the Bay Area recorded. 136

There is no doubt that a highly valuable marsh restoration project would be feasible on the site. I suggest that you investigate both the desirability of such an alternative for the City of Vallejo and the resources which may be available to carry it out. 137

Very truly yours,



Martin J. Cohen  
766 Walker Ave  
Oakland, CA 94610

cc: Barry Keene, Senator  
Tom Hannigan, Assemblyman  
William Filante, Assemblyman  
Cynthia Kay  
Melvin Zell  
Calvin Fong, U.S. Corps of Engineers  
Richard Myshak, U.S. Fish and Wildlife Service  
Gordon Van Vleck, Resources Agency  
Michael Wilmar, Bay Conservation and Development Commission  
Brian Hunter, Department of Fish and Game  
Michael Valentine, State Lands Commission  
Joseph Petrillo, State Coastal Conservancy

**LETTER #1-28**

135. Development of the Cullinan Ranch site would not "cut off" the Napa salt ponds and Napa River habitats from the mudflats, marshes and open water of San Pablo Bay, but it would interrupt the continuous open space that exists at present. The flight paths of some avian species flying between San Pablo Bay and the Napa Marsh are expected to be altered by the proposed development. See response to comment 46.

Currently, the area encompassed by the Napa Marsh, Leslie Salt Ponds, Cullinan Ranch, and San Pablo Bay is relatively undisturbed by the human presence (people, boats, man-made structures). The attractiveness of this region to wildlife has been documented but it is difficult to quantify the importance that isolation plays. Whether the habitat values of the Bay and salt ponds are diminished due to development of the property is a difficult question to answer, see Response 48. There are many potential impacts which may result, and these can be dealt with as specific issues; the cumulative impacts of the development on the surrounding areas can only be surmised.

136. Comment noted. Marsh restoration would have definite beneficial impacts to wildlife; however, it is not one of the alternatives being considered in the Final EIR/EIS. See page 150 of the Final EIR/EIS.

137. Restoration of the Cullinan Ranch to marshland appears to be technically feasible from both engineering and biological standpoints; however, there are other issues such as land ownership and financial constraints for purchase of the property which would have to be solved before any type of restoration plan could be proposed. See page 150 of the Final EIR/EIS for discussion of marsh restoration.

# People for Open Space

512 Second Street • San Francisco, CA 94107 • (415) 543-4291

July 5, 1983

Mr. Harold Boex  
Business, Development and Planning Director  
Vallejo Planning Department  
555 Santa Clara  
Vallejo, CA 94590

RE: CULLINAN RANCH  
SPECIFIC PLAN DEIR

Dear Mr. Boex:

People for Open Space is a non-profit conservation organization concerned with the regional planning and open space needs of the nine county San Francisco Bay Area. We wish to submit the following comments on the DEIR prepared for the Cullinan Ranch Specific Plan dated May, 1983.

In general we find the DEIR to be inadequate to the statutory requirements of CEQA. We therefore recommend that the DEIR be revised and reissued for further public review with the necessary information.

138

## I. THE DEIR FAILS TO STATE PROJECT OBJECTIVES

CEQA Guidelines section 15141(b) requires a statement of "objectives sought by the proposed project". No such statement is provided in the DEIR. A statement that the project is in conformance with the goals of the city's Housing Element (p.17) does not, in our view, meet the CEQA requirements.

When prepared, we believe these objectives should answer public concerns about the relationship of the project to meeting the broad social, environmental and economic needs contained in the goals of the city's General Plan. As is, the only rationale for the project appears to be the profit-making intent of its proponent. Post-facto rationalizations about the project's benefits do not, in our judgment, constitute a statement of affirmative objectives.

139

## II. THE DEIR FAILS TO ADEQUATELY PRESENT PROJECT ALTERNATIVES

(A) Because no objectives for the project are presented, it is not possible to generate or evaluate alternatives to the proposed project. The validity of a project

### BOARD OF DIRECTORS

**President**  
Lennie Roberts\*  
**Vice Presidents**  
Leslie S. Ayers\*  
Barbara Eastman\*  
William D. Evers\*  
Michael Marston\*  
**Secretary-Treasurer**  
James D. Hobbs\*  
**Alameda County**  
Mary Jeffers  
Marguerite K. Johnston  
Sylvia McLaughlin\*  
Arthur J. Pauli  
T. J. Kent, Jr.\*

**Contra Costa County**  
Elizabeth Kilham  
Clement Shute\*  
**Marin County**  
Lawrence Livingston, Jr.\*  
George A. Sears  
Karin Urquhart  
**Napa County**  
Volker Eisele  
June Foote  
**San Francisco**  
Mary Jane Brinton  
Chuck Forester  
Alan B. Jacobs\*  
Bud Johns

**San Mateo County**  
Robert Augstburger  
**Santa Clara County**  
Robert Mang  
Ciddy Wordell\*  
Beth Wyman  
**Solano County**  
Bob Berman  
**Sonoma County**  
Marilyn Goode  
Dr. William Kortum

\*Executive Committee  
Member 136

### ADVISORY COMMITTEE

Howard Allen  
Joseph Bodovitz  
Lewis H. Butler  
Laurence Dawson  
Patricia K. DiGiorgio  
Rene di Rosa  
Joseph H. Engbeck, Jr.  
Eileen R. Growald  
Alfred Heller  
I. Michael Heyman  
Lois Crozier Hogle  
Joseph C. Houghtaling  
Mrs. Mary Hutchinson  
Robert Kirkwood  
Gerrie Kretzmer  
Mrs. Pamela W. Lloyd

Irwin Luckman  
Dr. Bradford Lundborg  
Theodore Osmundson  
Mel Scott  
Mrs. William Siri  
Mrs. Carl Stern  
John H. Sutter  
John Otto H. Teller  
John Tuteur, Jr.  
Mrs. Robert Watson  
Mrs. Edgar Wayburn

**EXECUTIVE DIRECTOR**  
Larry Orman

**ASSOCIATE DIRECTOR**  
Betty Weekes

**Founder**  
Dorothy Erskine  
(1896-1982)

alternative lies in its achievement of a common objective through a different concept of development (or conservation), and it is the objective(s) which is used to measure such validity.

140

(B) When the DEIR identifies the "no project" alternative as environmentally superior, it must also cite which of the other alternatives is environmentally superior (Guidelines, section 15143(d)). The DEIR does not do this.

(C) Guidelines section 15143(d) requires that the DEIR "describe all reasonable alternatives to the project, or to the location to the project, which could feasibly obtain the objectives of the project, and why they were rejected in favor of the ultimate choice" (emphasis added). The DEIR fails to accomplish any of this requirement. It focuses only on alternatives on-site, and even these are not substantially different in terms of type of development or environmental protection. For instance, was the option of a clustered housing project and conventional marina with large amounts of dedicated open space considered?

141

It is a fatal error that no off-site alternatives were considered. Why is there no discussion of White Slough or other places as alternative sites? CEQA clearly requires that the alternatives be based not on the unique characteristics of a project, but on alternative approaches to meeting defined needs and objectives. Again, the DEIR's failure to address objectives is critical.

142

Further on the issue of alternatives, we would observe that the DEIR is woefully inadequate in its discussion of the residential densities of the various alternatives. No attempt is made to consider either the total amount of vacant land the city has available or the magnitude of the opportunities it has for other types of infill housing, and to relate that land resource to alternative densities that would allow meeting projected housing need without sprawling onto the Cullinan ranch.

143

III. THE DEIR FAILS TO DISCUSS ANY INCONSISTENCIES WITH APPLICABLE REGIONAL PLANS

CEQA requires that the DEIR consider any relevant regional plan and discuss any inconsistency between the plan and the project (Guidelines, section 15142(b)). In particular, the DEIR should consider the goals and policies of the ABAG Regional Plan.

144

IV. THE DEIR INADEQUATELY CONSIDERS THE CUMULATIVE IMPACTS OF THE PROJECT

CEQA Guidelines section 15142(a) requires specific references to related projects, existing and planned, in order to determine cumulative impacts. No such analysis is provided. A survey should be done of all North Bay diked wetlands in order to meet this requirement.

145

In evaluating these cumulative impacts, the effect on agricultural operations of a general climate of uncertainty should be considered. POS and many national studies have found that what is called the "impermanence syndrome", or the "urban shadow" can cause the under-production or idling of much more farmland than just that converted (see POS Background Report #4: Bay Area Farmland Loss:Trends and Case Studies (1979), and the Final Report of the National Agricultural Lands Study (1982)).

In conclusion, we believe that the DEIR is legally inadequate. It represents the crudest of attempts to rationalize a poorly-conceived project and should be prepared anew.

Sincerely,



Larry Orman  
Executive Director

**LETTER #G-1**

138. Developer's Objectives. The objectives sought by the project proponent are to develop a water-oriented planned community that will bring market rate housing to middle and high income households in the North Bay area. This is intended to be a marina-oriented environment that will take advantage of the unique waterway setting. In addition, the developer expects to make a profit.

City's Objectives. The City of Vallejo has a need for additional housing units, particularly those that will serve the middle and higher income households in the community, as stated in the Housing Element of the General Plan.

139. See response to comment 138.

140. The newly proposed Alternative E is the environmentally superior alternative, for purposes of Section 15143(d) of the CEQA Guidelines.

141. Off-site alternatives were not considered in the Final EIR/EIS because the City of Vallejo does not contain any other developable sites suitable for a marina-oriented project of this size that would accomplish the developer's objectives. With regard to White Slough, although portions of the White Slough area have been recommended for development in a recently prepared specific area plan, the White Slough site has numerous constraints as a residential marina development. First, the area is approximately 320 acres, considerably smaller than the Cullinan Ranch property. Second, the draft of the specific area plan recommends that White Slough develop as light industrial, offices and a small amount of high density residential. Such recommended land uses would not accommodate a marina-oriented community. Third, BCDC has claimed jurisdiction over White Slough and its policies could preclude marina development. Fourth, State Highway 37 is proposed to be improved as it crosses through White Slough which would further decrease the developable acreage. Finally, the State Lands Commission has stated the area is uninsurable by title companies.

142. The text has been revised to include a comparison of residential densities. The residential densities of Alternatives A, B, and E are similar.

The City has other vacant land for housing with these densities, however it is inappropriate for a marina-oriented community due to a lack of water access. See list of current subdivision activity in Vallejo in Appendix IV.D.

143. The ABAG Regional Plan 1980, contains a variety of broadly stated goals and objectives dealing with planning and development in the Bay Area. The plan sets forth guidance for local governments and private developers in the areas of: housing, economic development; environmental quality; safety; recreation; transportation; and health. In its comments on the draft EIR, the ABAG staff found only three areas of possible inconsistency.

- a) conflicts between the Napa County airport and how they relate to the Regional Airport Systems Plan;
- b) whether the project will contribute to Vallejo's share of low and moderate income housing; and
- c) the adequacy of the proposed surface runoff mitigation measures and their relationship to ABAG's Oil and Grease and Urban Runoff Report dealing with water quality.

These three concerns are discussed in more detail:

- o airports, responses 268-271.
- o low and moderate income housing, response 66.
- o oil and grease, responses 56 and 179.

144. The commentor is concerned with the "cumulative" impacts on North Bay diked wetlands. CEQA guidelines requires a discussion of the impacts of the proposed project together with other past, present and reasonable foreseeable future projects.

At the current time there are no current or foreseeable projects proposed in the North Bay diked wetland area. Thus, the real concern is not the "cumulative" impacts, but rather what is called "growth inducing impacts" or more specifically whether the conversion of this parcel to urban uses will result in other loss of agricultural land on surrounding properties.

As correctly pointed out by the commentor, studies have shown that placing urban development adjacent to agricultural uses often does result in an impermanent attitude on the part of the remaining farmers causing under production or idling of neighboring land leading to further urbanization. For a discussion of the "impermanence syndrome" see

page 49 of the Final EIR/EIS.

However, such results are much more likely to occur when that neighboring land is itself developable. In the unique setting of the North Bay diked wetlands, such an "impermanence syndrome" may not occur because many parcels are "undevelopable". Further urbanization is unlikely.

Numerous constraints exist to the development of other North Bay diked wetlands. First, Cullinan Ranch is distinguishable from most other parcels because clear title has been legally determined in a Boundary and Exchange Agreement with the State Lands Commission (see Appendix IV.F). Without the benefit of clear title, it is unlikely that other parcels could be properly insured by title companies to allow developers to finance new development. It is equally unlikely, though not impossible that the State Lands Commission would allow such development, as it did in the Cullinan Ranch Boundary and Exchange Agreement in 1974.

The map following page 151 in the Final EIR/EIS indicates areas of the North Bay deemed uninsurable by title companies.

In addition to the constraint on development caused by unclear title, the fact that much of the North Bay diked wetlands is under BCDC's jurisdiction would act as a likely deterrent to further development. The Bay Plan prepared by BCDC discourages development in wetland areas as well as in agricultural areas surrounding the Bay. Many of those areas are within the 100-foot shoreline band that falls within BCDC's jurisdiction. As such, it is unlikely that BCDC would allow development in many areas of the North Bay.

Another constraint on development in the wetland area is the unavailability of utility connections to serve new development. The Cullinan Ranch project proposes to bring utility connections sized only for the development across the Napa River Bridge, without tunneling under wetland areas. Development beyond Cullinan Ranch would be limited by the impracticality of serving parcels with sewer, water, gas and electric which would have to be buried under the Napa River.

As far as the possibility of strip development occurring along Route 37, the lack of clear title, as discussed previously, would preclude most development along the highway (see

response 49).

145. Based on discussions with planners and agricultural advisors in Marin, Sonoma, and Napa counties, there are no current plans for urban development on diked wetlands in agricultural use. The last major wetlands conversion in the North Bay was the Bel Marin Keys Unit 5 project in Marin County. Most of the wetlands area in the North Bay are somewhat protected from development by their uncertain land title status; they would be difficult to develop because the State of California also has title claims to this land, and the State Lands Commission would have to clear title prior to development. This title issue is discussed in more detail in response to comment 144.

The Soils and Agriculture section of the Final EIR/EIS has been revised to describe the potential impacts on agricultural activities.

The Final EIR/EIS (page 50) has also been revised to reflect the addition of suggested mitigation measures for preserving agricultural land.

# SIERRA CLUB



## NAPA GROUP

### Redwood Chapter

3477 Twin Oaks Court  
Napa, Ca. 94558

July 8, 1983

Sierra Club  
Napa Group  
Conservation Committee

The Napa Group of the Sierra Club would like to express the following concerns regarding the proposed Cullinan Ranch Project. The Group is especially concerned about those effects pertaining to Napa and the Napa Valley which have not been adequately addressed in the EIS/EIR.

146

The EIS/EIR states on page 105 that "due to travel patterns and regional wind patterns, project emissions would mainly affect the Napa Valley." On the same page the EIS/EIR states that "the federal 8-hour carbon monoxide standard was violated in 1979 and 1980. Vallejo has been identified as one of four locations in the Bay Area that had not attained the federal standard by 1979... the state standard is occasionally exceeded! The EIS/EIR does not address what effect the increase of emissions caused by the increase of auto and boat traffic will have on the air quality of the Napa Valley. Also the cumulative effect of air pollution is not addressed. As the Napa Valley is primarily agriculture land, being the most important grape growing areas in the USA, it cannot afford to be the subject of any increase in air pollution and therefore, it is recommended that Alternative D be adopted.

147

Another concern of the Napa Valley is the cumulative impact of pollution in the Napa River. This area is not adequately addressed in the EIR. The EIR on page 38 states that the Cullinan Ranch development could result in water quality impacts including "water quality problems occurring in the lagoon may have an impact on the waters of the adjacent sloughs and the Napa River." The EIR, however, does not address how the cumulative effect of this deterioration in water quality will affect the Napa River. There is no guarantee that there will be adequate circulation of water that will prevent deterioration of water quality. Also the EIR states that periodic water quality monitoring (p. 42,) should be conducted. This is inadequate, the EIR should be more specific and state that monthly monitoring should be conducted.

148

The Napa Group is also concerned about the effect that the project will have on the Napa Marshes. No consideration of impact has been given to the impact outside of the 1,500 acre sphere. With 2,000 boat docks being built the EIR does not address the disturbance

149 factor on the Napa Marshes especially the effect of sailboats, power boat traffic and water skiing. This is the first intrusion into the Napa Marshes -- will it be the last? The Napa Group is concerned that the building of this project will open up the opportunity for further development around San Pablo Bay.

150  
151 Other concerns that the Napa Group has that the EIR does not adequately address are the potential problem of the Rogers Creek Fault, the sewage treatment facility, increase in salinity, changing the tidal prism, fisheries information and finally, the economic and fiscal responsibility of the project.

152 There is over 2,000 acres of undeveloped land in the City of Vallejo. Why propose to build on an unannexed area which is seismologically unsafe, therefore endangering thousands of people's lives if an earthquake occurs?

The Napa Group requests that the Planning Commission seriously consider the risks they are taking in approving this project.

The Napa Group of the Sierra Club respectfully submits these comments be made part of the public hearing comment and requests that all concerns be addressed and recommends that Alternative D, no project, be adopted.

Submitted by,

*Teresa Matta*

Teresa Matta  
Conservation Committee Chair

**LETTER # G-2**

146. The state and federal 8-hour average CO standards are both set at 9 ppm. This is the standard which is occasionally exceeded in Vallejo. As noted in the Final EIR/EIS, prevailing winds will often carry project emissions to the Napa Valley. This would produce an increase in pollutant concentrations in the Napa Valley and other downwind areas. The most important pollutant at this scale would be ozone which is formed by photochemical reactions in the atmosphere over a period of several hours. However, the increase in ozone concentrations in the Napa Valley would be too small to measure with conventional equipment or model accurately because of the amount of dilution which would take place as the project emissions are transported downwind. CO emissions due to the proposed project would decrease rapidly with increasing distance from the source and be negligible by the time the wind had transported them as far as the Napa Valley.

147. Any adverse water quality impacts caused by boat operation or storm water runoff are unlikely to be noticeable beyond the lagoon and adjacent sloughs because of the high degree of mixing and dilution that will occur in the Napa River.

148. See response to comments 48, 51, 54, and 55 regarding information of project impacts on the Napa Marsh.

149. See response to comment 54, 55, and 56.

150. See response to comment 49 regarding further development around San Pablo Bay.

151. All of these concerns are addressed in the Final EIR/EIS and responses to comments by others. Specifically see: Geology and Seismicity, Section III.E.; Utilities and Services, Section III.K.; Hydrology, Section III.C.; Vegetation and Wildlife, III.F.; and Economics/Fiscal, Section III.L.

152. The "2000 acres of undeveloped land" referred to areas already allocated for other development. Please see response 142 for further discussion of other land use and available for housing in Vallejo. For further discussion of seismicity please see responses 39, 61 and 96.



HOLY NAMES COLLEGE  
History and Political Science

Received  
6/10/83

X c2

June 9, 1983

Planning Commission  
Vallejo City Hall  
Vallejo, California 94590

Dear Sirs:

153

I oppose the proposed massive development of Cullinan Ranch; the latter is the largest remaining area of agriculture, open space, and wildlife habitat in San Francisco Bay system.

There is no need for further shore development, and land is available elsewhere for homes; and there is a need to save San Francisco Bay and wetlands for future generations of human beings and animals.

This proposal sounds like a very greedy real estate plan.

Sincerely yours,

*Ethel Tinnemann*  
Ethel Tinnemann

3500 Mountain Boulevard, Oakland, California 94619 (415) 436-0111

**LETTER # G-3**

153. Comment noted.

# THE BAY INSTITUTE OF SAN FRANCISCO

5080 Paradise Drive  
Tiburon, California 94920  
415-435-9065

*Copy*

Colonel Edward M. Lee Jr.  
District Engineer  
U. S. Army, Corps of Engineers  
211 Main Street  
San Francisco CA 94105

July 10, 1983

re: Cullinan Ranch EIR/EIS

attn. Ms. Karen Mason/Mr. Roger K. Golden

Dear Colonel Lee:

I commend the attempt being made by the Corps of Engineers and the City of Vallejo to sponsor a joint environmental analysis of the Cullinan Ranch development (Draft, May 1983, Torrey & Torrey). However, the present draft does not describe impacts of the project adequately to meet the statutory obligations of either the national interests (NEPA, CEQ, Corps Guidelines) or the state and local interests (CEQA, California Guidelines).

This letter iterates comments the author made verbally at the hearing held in Vallejo on July 6.

The draft report is particularly deficient in two areas: (1) it ignores the regionwide, and possible national, effects which approval of the project would place upon similar Bay bottomlands located in eight counties; (2) it provides no -- and I repeat, no -- alternative scales of development for reviewing agencies and especially the citizens of Vallejo to consider.

154 On the first point, I am concerned that the draft report does not contain any discussion of this project's potential approval on the legal, political and physical prospects of the other 49,663 acres of Diked Baylands surrounding San Francisco Bay. This potential is not even listed among those (50) in the summary of Significant Adverse Impacts and Mitigations, pages S-5 to S-12. Similarly, in the list of Issues (14) on page S-4 this regional and national issue of major land conversion is not even cited as a major problem considered by the report's writers or marked for further consideration, as half of the issues listed are so marked. Of the Issues list, only "residential use of diked historic baylands" comes close to this question, and in the context of the draft report this reference is definitely limited to the site-specific acreages given for housing purposes in Alternatives A, B and C.

There are several logical places in the report text where this important subject could be discussed. Information for quantifying the problem, for example, is contained in reports of the San Francisco Bay Conservation and Development Commission which are footnoted by the authors on page 6 and on page 28.

The most relevant information which is missing from the report, from the sources cited above, is the following:

TABLE I  
Habitat Classification  
(Acres)

<u>County</u>	<u>Salt Marsh</u>	<u>Brackish Marsh</u>	<u>Pond Lagoon</u>	<u>Freshwater Marsh</u>	<u>Cultivated/Upland</u>	<u>Mixed Habitat</u>	<u>County Total</u>
ALAMEDA	2,049	-	2,427	463	1,060	-	5,999
CONTRA COSTA	444	423	937	103	827	62	2,796
MARIN	945	627	336	29	5,579	552	8,068
NAPA	-	169	554	-	2,107	952	3,782
SAN MATEO	220	25	2,143	-	450	91	2,929
SANTA CLARA	1,882	167	814	-	80	193	3,136
SOLANO	320	33	731	-	1,600	-	2,684
SONOMA	299	-	286	-	20,895	282	21,762
<b>Total</b>	<b>6,159</b>	<b>1,444</b>	<b>8,228</b>	<b>595</b>	<b>32,598</b>	<b>2,132</b>	<b>51,156</b>
<b>Percent Total</b>	<b>12%</b>	<b>3%</b>	<b>16%</b>	<b>1%</b>	<b>64%</b>	<b>4%</b>	<b>100%</b>

TABLE II  
Proposed Land Use\*  
(Acres)

<u>County</u>	<u>Agriculture</u>	<u>Urban Development</u>	<u>Open Space/Park</u>	<u>County Total</u>
ALAMEDA	147	2,666	3,186	5,999
CONTRA COSTA	0	2,589	207	2,796
MARIN	2,709	3,924	1,435	8,068
NAPA	3,176	606	0	3,782
SAN MATEO	0	2,848	81	2,929
SANTA CLARA	0	942	2,194	3,136
SOLANO	1,663	975	46	2,684
SONOMA	21,013	386	363	21,762
<b>Total</b>	<b>28,708</b>	<b>14,936</b>	<b>7,512</b>	<b>51,156</b>
<b>Percent Total</b>	<b>56%</b>	<b>29%</b>	<b>15%</b>	<b>100%</b>

\*Information from recent County General Plans

155

I recommend strongly that Tables I and II be used within the text of the EIR/EIS as integral parts of a discussion of the regional nature of the decision presented by this project.

Tables I and II are also useable for a more balanced discussion of local effects, of the city and county, plus attached governmental units, due to approval of the project. For example, it is worth noting that, as shown in Tables I and II, the diked historic baylands (Diked Baylands, as defined by BCDC) total 2,684 acres in Solano County. The project site, classified as agriculture, must be included in the 1,663 acres designated as Agriculture in Table II. Thus, the project's 1,453 acres located within Solano County amount to 88 percent of Solano County's total lands in this unique category, and 54 percent of all Diked Baylands in Solano County jurisdiction. Of course, the availability of 975 acres of Diked Baylands in Solano County already classified for Urban Development is also worth noting in the draft report, although many federal and state and regional agencies may also object to conversion of such sites with their associated values of providing habitat values for wildlife, serving as flood overflow areas at critical times and other public purposes.

156

The contrast between Solano County jurisdiction over the project site and City of Vallejo annexing the site is indicated in Table III, shown below. This table was developed from the same information base which produced the data of Tables I and II. (It is worth noting that Vallejo appears to contain all of the Solano County lands shown in Table II as classified for Urban Development, plus 56 acres more. This may indicate a double counting of Guadalcanal Village's 53 acres, or some other clerical error. The EIR/EIS authors are invited to clarify this statistic.)

Table III is included for illustrative purposes. It indicates, for example, that only 20 percent of the Diked Baylands enjoy some semblance of favorable pro-open space/park/habitat protection by local governments around the Bay. The remaining 80 percent of such lands are vulnerable to development, similar to that proposed at Cullinan Ranch, and this is a telling indication of the importance of the Cullinan Ranch decision to maintaining the existing federal/state control systems built around the Corps of Engineers' permit authority. This is necessary to keep options for these lands open until the present study being conducted by the San Francisco Bay Conservation and Development Commission is completed, and recommendations are made to the State Legislature.

Table III was prepared by The Bay Institute. It was circulated, along with Tables I and II and other information, to a wide number of organizations and government agencies in a memorandum dated December 28, 1982. Full copies of the memorandum are available upon request.

The remainder of this letter concerns Point 2 above, the absence of discussion of meaningful alternatives in the draft report.

TABLE III\*

<u>Jurisdiction</u> <sup>+</sup>	<u>Number of Sites</u>	<u>Total Acreage</u>
<u>Class A -- Fair-to-good local protection of diked baylands available</u>		
Hayward	18	2672
Marin County	35	5514
Corte Madera	2	42
Menlo Park	9	218
Santa Clara County	3	326
Solano County	2	1653
<u>Class B -- Some local protection of diked baylands available</u>		
Fremont	5	1037
Union City	1	147
Pinole	1	20
Novato	14	2053
Napa County	23	3077
San Mateo	4	86
Sunnyvale	5	571
Sonoma County	56	21,266
<u>Class C -- Little or no protection of diked baylands at local level</u>		
Alameda County	1	228
Alameda	2	71
Newark	5	650
Oakland (Port)	5	826
San Leandro	3	278
Martinez	1	41
Contra Costa County	29	2196
Richmond	6	539
Larkspur	1	3
Mill Valley	1	5
San Rafael	7	451
Napa	4	705
Foster City	5	58
So. San Francisco	1	51
Redwood City	14	2487
Palo Alto	2	1236
San Jose	7	939
Vallejo	8	1031
Petaluma	3	496

\*This table does not include all public agencies owning diked historic baylands, e.g. City of Berkeley (Aquatic Park), City of Mountain View, sewage districts, mosquito abatement districts, and flood control districts. All acreages are approximate only.

<sup>+</sup>Listed per alphabetical order by county: Alameda, Contra Costa, Marin, Napa, San Mateo, Santa Clara, Solano, Sonoma. San Francisco is omitted because it contains no unfilled diked historic tidelands.

Bay Institute of San Francisco 12/27/82

Alternatives B and C make little sense as presented in the draft report, and offer little of substance for the report authors to evaluate and for the report's readers and decisionmakers to pass judgment upon. This is true for the following reasons:

Alternative A, 4500 dwelling units, is the developer's proposal.

Alternative B, 4500 dwelling units, merely shifts around the land and water base used by the developer's proposal.

Alternative C, 10,000 dwelling units, presents such a preposterous scenario for developing these lowlying and sensitive lands -- more than double the developer's scale of development -- that any analysis of its impacts is patently useless from a practical point of view.

Alternative D is the no project alternative required by both federal and state guidelines.

157

Thus the only viable options presented in the draft report are A, the developer's unmodified proposal, and D, the no project alternative. Conceivably these two alternatives may satisfy the federal requirements. However, this approach is dreadfully shortsighted in terms of providing needed information to state and local reviewers and decisionmakers.

Alternatives B and C add nothing to the information base needed by the officials and citizens of Vallejo, for example, who are expected to make a fair and balanced judgment about how much (if any) development they might be willing to allow the developer to have. The answer to this question determines the project's effects on Vallejo's total community carrying capacity -- schools, hospitals, streets, traffic, transportation, air quality, sewage service and water supply, for examples -- for at least the next 20 years and probably longer. Different scales of development, obviously, will affect the City's human and natural resources in different ways. These differences should be noted, analyzed and spelled out.

158

In fact, including Alternatives B and C in their present forms throws doubt on the entire joint EIR/EIS approach by raising questions immediately about how these alternatives were selected. Because of the importance of alternatives to the planning process, the method of selecting them should be explained in the draft report. This explanation should include the role of each of the sponsors in selecting alternatives, as well as the role of the consultant in exercising professional judgments to assist the sponsoring agencies in this selection.

Certainly the description of Alternative C on page S-3 sheds no light on the rationale for selecting Alternative C, and labeling Alternative C the "General Plan Project" in the headings of Table II-2 and Table II-3, on pages 11 and 12, is downright misleading both in semantic and legal terms. This gives the appearance that Alternative C has been included only to make the developer's proposal seem small and reasonable, which it certainly is not.

For the reasons given above I recommend that the final EIR/EIS contain discussions of the Alternatives as follows:

Alternative A, the developer's proposal, 4500 units;

Alternative B, 2,250 units;

Alternative C, 250 units;

Alternative D, zero units (no project).

Another, though smaller, failure of the draft report in discussing alternatives is the statement on page S-3, and repeated on page 10 and perhaps at other points in the draft report, that a public agency could in the future (if no development is permitted) acquire the site and restore the land to its original marsh condition.

159 It should be noted at any pertinent place in the report that this alternative could also be implemented by private parties or by non-profit, quasi-public organizations. For example, a combination of public-private interests could result in acquisition of the lands and conversion to marsh due to the high value of such a development in joining the wetland habitats of San Pablo Bay National Wildlife Refuge to the south and Napa Marsh and Wildlife Management Area to the north. Conceivably, duck clubs or the California Waterfowl Association could combine interests with state, federal and local nature preservation interests to produce such a commendable end result, as one example.

Thank you for considering the above comments. I understand that the sponsors plan to exchange all comments received, and that it is not necessary therefore for me to submit the above comments to the City of Vallejo. For record purposes, I did appear at the hearings sponsored by the City of Vallejo on July 6.

Respectfully submitted,



William T. Davoren  
President  
The Bay Institute of San Francisco

**LETTER # G-4**

154. See response 144, regarding growth-inducing impacts.

155. The comment suggests that two tables be included in the Final EIR/EIS. These tables which show the total diked wetlands in the Bay Area and proposed land uses based on recent county general plans have been included as Appendix IV.G. Based on the information contained in these charts, it appears that county plans would allow approximately 14,936 acres or 29% of the wetlands to be developed. Although this figure is significant, whether or not the areas actually developed would depend on many factors not in the county general plans including the constraints discussed in the response to comment 144.

156. The commentor notes that Solano County local protection of diked baylands is better than the protection offered by City of Vallejo ordinances. The chart provided by the commentor has been included as Appendix IV.G. The data on the chart has not been verified by the City of Vallejo or the Corps of Engineers but represents the commentor's *opinions only*.

157. Alternative E has been added to the Final EIR/EIS.

158. Alternatives were selected based on discussions between the City, the Corps of Engineers and the consultant that prepared the Draft EIR/EIS as well as the Public Scoping Meeting. Alternative B was designed to mitigate some of the impacts that would result from Alternative A. Alternative C was included to show the intensity of development that would be authorized under the City's general plan.

A General Plan alternative is appropriate in an EIR/EIS because of the importance of the General Plan as a local government policy document. Its inclusion is not intended to make Alternatives A, B and E look better, but only to explain what is currently authorized under local policy.

159. Although marsh restoration could, under certain circumstances, occur at the Cullinan Ranch, that possibility is not appropriately a part of the "no-project" alternative. No project would be that the Ranch continue in agricultural use.

The discussion of marsh restoration has been moved to Chapter VI of this report entitled "Irreversible and Irretrievable Commitments of Resources Which Would be Involved in the Proposed Action Should it be Implemented."

In that section, the possibility of acquisition for marsh restoration is discussed. The report now recognizes that acquisition could be by either a public agency, private parties, non-profit organizations or quasi-public entities. See page 150.

Marsh restoration would entail acquisition of the property by either a public entity, non-profit land trust, or even a private corporation. Such restorations have occurred successfully in other wetland areas. Acquisition of the property would, however, entail considerable sums of money for purchase, dike reconstruction and management. At the current time, no individuals, organizations or agencies have come forward with the money to acquire the site for marsh restoration purposes.

C1



Marin Audubon Society Box 441 Tiburon, California 94920

June 30, 1983

Lt. Col. Edward M. Lee, Jr.  
San Francisco District, Corps of Engineers  
211 Main Street  
San Francisco, CA 94105

Ann Merideth  
Planning Dept., City of Vallejo  
P.O. Box 3068  
Vallejo, CA 94590

Dear Col. Lee and Ms. Meredith:

The Draft EIR/EIS and Preliminary Technical Appendix A for the Cullinan Ranch development proposal have been reviewed by Marin Audubon Society's Conservation Committee, and we wish to make the following comments and recommendations.

Our concerns are related to the major impact potential of this project on essential wildlife habitat, particularly on wintering and migratory waterfowl and shorebirds in the San Pablo-San Francisco Bay area.

160

As this project would eliminate from the Napa marsh area a large expanse of upland, which is a necessary element of marsh habitats for wildlife, we recommend that loss of upland habitat be added to the list of Significant Adverse Impacts on page S-8 of the EIR/EIS. Page 71 also notes that the loss of "swales and drainage ditches as wildlife habitat is considered an adverse impact." Loss of these seasonal wetland habitats should also be listed as Significant Adverse Impacts. The top figure on Exhibit III-4a, opposite page 70, notes a 10' sacrificial berm. The EIR/EIS does not explain what a sacrificial berm is, nor does it discuss that the use of enkadrain as an erosion control instrument (bottom figure Exhibit III-4a) would reduce the habitat value of the mudflats by inhibiting the growth of organisms in the soil. "Vacant land" is used to describe existing land uses of the site on page S-3, third paragraph from end. As discussed in the two preliminary wildlife reports, the land is extensively used by a variety of wildlife species. We suggest that, rather than vacant land, wildlife habitat is a term more accurately descriptive of existing use along with agriculture.

161a

161b

162

The one year designated duration for the Wildlife Monitoring Program does not allow sufficient time to obtain adequate information

A Branch of National Audubon Society

163 on wildlife use. A longer period of time is necessary to gather accurate data on seasonal and cyclical population trends which are related to such variables as the current draught in the Canadian nesting grounds and this year's abnormally wet winter in Northern California. During such high precipitation years, feeding areas are more available and ducks are likely to be widely disbursed. Information based on just this year would, therefore, yield distorted records of population use. It should also be noted that the 1982 Christmas Bird Count, done annually by Marin Audubon and other Audubon chapters, revealed reduced waterfowl and shorebird numbers throughout the San Francisco Bay area for many species which use the Napa marsh area.

164 Neither the EIR/EIS or the Preliminary Ecological Report contain information on wildlife use of the project area gathered through past years. All such available information, particularly that from the U.S. Fish and Wildlife Service and the California Department of Fish and Game, would be included in the Final Ecological Report.

165 The EIR/EIS raises many questions about impacts of this project on wildlife, and speaks well to the value of the area for wildlife. Our entire San Francisco Bay area is a major wintering habitat for waterfowl and shorebirds, and is an important migratory stop on the Pacific Flyway. The San Pablo Bay area is of critical importance for these species as confirmed by the presence of two wildlife refuges, the San Pablo Bay National Wildlife Refuge and the San Pablo Bay State Wildlife Area (which the Marin Audubon Society was instrumental in establishing), and the priority position placed by the Fish and Wildlife Service in the Napa marsh as #1 for wintering habitat preservation on the California coast, and #6 nationwide. The Preliminary Ecological Report lists 97 Bird species seen on or near the Cullinan Ranch site, three of which are endangered or rare, and five of which are of Special Concern in California.

166 A project of this magnitude, wedged between the Napa marsh and the San Pablo Bay National Wildlife Refuge, could have widespread and devastating impacts on wildlife. It would remove over one thousand acres of open-space joint agriculture/wildlife use of the lands. Increased car, boat and people traffic would lessen wildlife use of Dutchman Slough and other surrounding areas. Many species which pass over the site are low fliers, and the presence of tall buildings and boats is likely to inhibit their movement over the site to and from adjacent feeding areas. As noted on Page 71 of the EIR/EIS, detour routes around the project could lead to increased energy expenditure and higher bird mortality. Elimination of habitat and changes in migration corridors could also lead to increased use of other feeding areas, and further reduction in population numbers as use may exceed the available food supply.

167 The survival of migratory wildlife species depends to a major degree on the availability and health of their wintering habitat. Adverse cumulative impacts of this project will have significance for migratory wildlife populations in the San Pablo/San Francisco

Bay area and for the entire Pacific Coast Flyway. Because of this regional significance, we support the No-Project Alternative.

Thank you for this opportunity to comment.

Sincerely yours,



Barbara Salzman, Chair  
Conservation Committee

cc: Fish and Wildlife Service  
Dept. of Fish and Game  
MCL

**LETTER # G-5**

160. Loss of upland habitat has been added to the list of Significant Adverse Impacts and Mitigations.

161a. The loss of swales and drainage ditches on the Cullinan Ranch site is not considered to be a significant adverse impact. While the swales and drainage ditches offered some habitat variation on the Cullinan Ranch property, they did not receive widespread use by wildlife. Sparrows, finches, starlings, and mourning doves were among the avian species observed to use the swales. A few species of mice as well as opossum also used this habitat. Great blue herons, great and snowy egrets, mallards, and cinnamon teal were observed in the drainage ditches. Compared to the agricultural fields, tidal marsh, and sloughs these areas supported low densities and diversities of wildlife and, therefore, their loss is not judged to be a significant adverse impact.

161b. The use of a sacrificial berm was recommended by Moffat and Nichol, consultants to the developer. Such a berm serves to buttress fill against the levee to temporarily stabilize the levee. Once the levee is stabilized the berm would eventually be allowed to erode naturally. Enkadrain is a brand-name for a porous cover material (mesh-like) that is laid on top of the soil or shoreline and anchored to the berm to help stabilize it. Because the enkadrain is porous, plants can grow through it.

162. The term "vacant land" on new Page S-4, Paragraph 1 has been changed to "wildlife habitat and open space".

163. See response to comments 294, 397, and 401.

164. See response to comment 399b.

165. Comment noted.

166. Comment noted. See response to comments 45, 46, and 48.

Loss of habitat and changes in flight corridors will likely change feeding patterns and consumption, but it is unlikely that development of the proposed project would result in significant reductions in the numbers of species due to lack of food.

167. Comment noted. See response to comment 48.



# MARIN CONSERVATION LEAGUE

A non-profit corporation founded in 1934

1330 Lincoln Avenue, San Rafael, CA 94901  
Office telephone: 456-1912

June 30, 1983

#### Past and Present

Angel Island  
Mt. Tamalpais  
Samuel Taylor Park  
Bolinas Lagoon/Kent Island  
Stinson Beach  
Drakes Bay Beach  
Tomales Bay  
Pt. Reyes National  
Seashore  
Richardson Bay Sanctuary  
Corte Madera Tidelands  
Strawberry Tidelands  
Bothin Marsh  
Heerdt Marsh  
The Northridge  
Rancho Olompali  
Marin's Agricultural Lands  
Marin's Dairy Farms  
Coastal Protection  
Golden Gate National  
Recreation Area  
Offshore Oil Drilling  
Marin Planning Issues  
Wild and Scenic Rivers

#### President

Gloria Duncan

#### Executive Director

Karin Urquhart

#### Public Education Coordinator

Sallyanne Wilson

#### Board of Directors

Peter Behr  
Jean Berensmeier  
Sandy Blauvelt  
Barbara Brooks  
Donald Dickenson  
Gloria Duncan  
Dale Elliott  
Willis Evans  
Leon Galleto  
Emma Gilman  
Robert Henn  
Katherine H. Holbrook  
Roger Hooper  
Susanna Jacob  
Alan Johnstone  
Warren Levinson  
Natalie Lewis  
Pamela Lloyd  
Alex MacMillan  
Jack MacPhail  
Willa Marten  
Wallace McQuat  
Ralph Mead  
Frank Moncrief  
Bill Noble  
Irv Perlman  
Bob Raab  
Otto Reutinger  
Tom Robertson  
Anne Marie Shanks  
Clifford V. Shreman  
Jean Starkweather  
Susan Stompe  
Gordon Strawbridge  
Rosalie Webb  
Theodore C. Wellman  
Bruce F. Wolfe  
Chip Wray

Ann Merideth  
Planning Department  
P. O. Box 3068  
Vallejo, CA 94590

RE: RPA#14775E57

Dear Ms. Merideth, Colonel Lee and Mr. Golden:

The Marin Conservation League appreciates the opportunity to comment on the Draft EIR/EIS Cullinan Ranch for the City of Vallejo and the U.S. Corps of Engineers.

The Cullinan Ranch Specific Plan addressed in the above mentioned document is of concern to the Marin Conservation League (MCL) because of its devastating regional impacts both to our agricultural community and our wildlife.

During the MCL's 50 years of county, state and national conservation work in behalf of over 2000 citizens, we have consistently supported Marin's agriculture and wetlands.

The MCL is concerned about services for our ranchers and farmers. As the DEIR/EIS points out (page 49):

"The Ranch was estimated to produce a total of 1.6% of the hay used by dairies in Marin and Sonoma Counties and 6.7% grown in the two counties."

These percentages do not fully illustrate the significance of this loss. What is critical is the cumulative impact of dairy hay production from all the hay lands in Marin and Sonoma Counties. This is a regional issue, as the DEIR/EIS notes (page 50):

"The link is established between the availability of a local supply of hay and the economic feasibility of the dairy industry."

Unless the Vallejo Planning Department is aware of a method of increasing the local supply of hay, there is no way to mitigate this loss. The report identifies this on page 50.

"The loss of about 6.7% of the hay grown locally must be considered a significant unavoidable adverse impact due to the cumulative adverse impact on local dairies."

To preserve and protect the natural assets of Marin County, for all people

CI

168

MARIN CONSERVATION LEAGUE

Ann Merideth, Colonel Lee, Roger Golden  
RE: RPA#14775E57, Cullinan Ranch

June 30, 1983  
Page Two

The MCL opposes this project because of the effects on Marin's No. 1 industry, agriculture. We were pleased that the report pointed out that while the Cullinan lands "...would not be considered prime or unique agricultural lands as defined by the U.S. Department of Agriculture.<sup>2</sup>" The lands do have value (page 48):

"However there are several factors which give the site local importance capabilities. These include good surface drainage compared with other agricultural fields in the area and a relatively short hauling distance for harvested crops."

169

Additionally, according to the DEIR (page 60) the entire Cullinan Ranch site is within the historic marsh margin of the San Francisco Bay. These agricultural lands serve as important seasonal wetlands and potentially significant habitat for wintering waterfowl. As this report points out (page 64), seasonal wetlands have expanded in importance due to diminishing acreage of perennial wetlands around the San Francisco Bay Area. It should be noted that this DEIR/EIS does not acknowledge under the significant adverse impacts and mitigations to vegetation and wildlife (S 8) the loss of part of the Napa Marsh and particularly the loss of adjacent upland habitat. These are valuable wildlife resources which cannot be replaced. These losses should be documented in the significant adverse impacts and mitigation section.

170

The Fish and Wildlife Service of the Department of Interior (page 67) highlights this point when it identifies the Napa Marsh as the No. 1 priority for waterfowl wintering habitat preservation for the California Coast which is ranked No. 6 in national importance.

171

Keeping the above mentioned in mind, a lack of understanding and/or appreciation of wildlife and its value comes through on S-3 with the term "vacant land." This land is far from vacant, rather it is home for a host of species. It is also important to acknowledge that wildlife studies of the area are limited (page 65) due to a statewide decline during 1982-83, and that several endangered and rare species were located near the proposed project. This project proposes to eliminate the waterfowl from this area. This project sets a precedent for the loss of additional wetlands for the entire North Bay Region.

172

173

The above mentioned points cause the Marin Conservation League to oppose the Cullinan Ranch Specific Plan namely the effects on Marin and Sonoma agriculture and the loss of valuable wetlands.

Sincerely,

  
Karin Urquhart  
Executive Director

/dw

cc: Department of Fish & Game  
U.S. Dept. of Fish & Wildlife

**LETTER # G-6**

168. Comments noted. As the commentor mentions, the Draft EIR/EIS does cite the significance of the relationship between hay production and dairies as well as the productivity of Cullinan Ranch soils on pages 48-50. See also response to comment 21.

169. Comment noted. The loss of upland habitat has been added to the list of Significant Adverse Impacts and Mitigations on Page S-7. Although the entire Cullinan Ranch site is within the historic (1850s) marsh margin of San Francisco Bay, levee construction has effectively eliminated tidal action on the site and the use of an efficient pumping system reduces the extent of seasonal ponding. The Ranch receives only limited use by wintering waterfowl and shorebirds (Harvey & Stanley Associates 1983). In its present condition, the loss of seasonal wetlands on the Ranch is not considered a significant impact. If pumping were reduced, and seasonal ponding was more extensive, then such an impact could be significant. The loss of upland habitat (i.e., Cullinan Ranch) situated between San Pablo Bay and the salt ponds is considered to be significant because it will constitute the loss of supplemental habitat for many wildlife species as well as lessen the open space and undeveloped corridor between the Napa Marsh, salt ponds, and San Pablo Bay. The project may have adverse impacts on the adjacent marsh (see response to comments 45, 46, 48).

170. Comment noted.

171. The term "vacant land" on new Page S-4, Paragraph 1 has been changed to "wildlife habitat and open space."

172. Wildlife studies of the area are not limited because of a statewide decline (of waterfowl) during 1982-83. The U.S. Fish and Wildlife Service conducts regular aerial winter surveys of the Bay Area and volunteers from Bay Area Chapters of the Audubon Society are conducting ground surveys of diked agricultural lands in the North Bay area to determine their use by waterfowl (Pratt pers. comm). This study is expected to continue for 3 to 5 years.

Rare and endangered species are discussed on Page 68-69 of the Final EIR/EIS. See Appendix IV.L for results of Harvey & Stanley Associates (1983) yearlong biological

monitoring program. This work constitutes the only long-term study of the project site to date.

173. See response to comments 48 and 49.



CI

# LEAGUE OF WOMEN VOTERS OF SOUTH SOLANO COUNTY

BENICIA • FAIRFIELD • SUISUN • VACAVILLE • VALLEJO

860 Brookwood  
Vallejo, Calif  
July 1, 1983

Ann Merideth  
Planning Department  
Vallejo, Cal

Re: Comments on EIR/EIS for Cullinan Ranch project , planned for  
a historic marsh area.

The League has reviewed the EIR/EIS and has found areas /issues  
that have not been adequately addressed , aside from a major change  
being called for in our City's General Plan . page 15 para. 3.

174

1. Economic impact on the city of Vallejo.
  2. Sewer and water costs. \*
  3. Schools , funding has not been identified. \*
  4. Financing for Fire and Police stations is vague.
  5. Risks to homeowners in the future due to settling of the bay  
mud.
  6. Noise pollution from highway and airport. Congestion on  
Sears Point Rd.
  7. Source of land fill has not been identified.
- \* Will the developer be willing to put up a performance bond  
for these projects.

*JoAnne Craig*  
JoAnne Craig

Bay Area chair. for  
League Women Voters Solano County

**LETTER # G-7**

174. All of these concerns are addressed in the Final EIR/EIS. Also see responses to comments 9, 18, 25, 28, 29 and 30.



# The Kite Call, Ohlone Audubon Society, Inc.

Chapter of the National Audubon Society

*Southern Alameda County, California*

June 30, 1983

City of Vallejo  
Office of the Planning Department  
Vallejo, California

Ohlone Audubon has been reviewing the Cullinan Ranch EIR/EIS. It is felt that the plan is excellent. The planners have been considerate of the public's need for pedestrian and bicycle facilities and have adjusted street alignments to allow for maximum use of solar power. The carefully planned water orientation sounds very attractive.

However, I must recommend that Option D, no project, be the best choice.

Several problems do not seem to be covered adequately.

I. The Cullinan Ranch is on land that was once a tidal marsh. It is better to restore land to tidal action than to withdraw it from the possibility of restoration by putting houses on it.

175

Marshes are an essential part of estuarine ecosystems such as San Francisco Bay. The marsh recycles air components. It produces large quantities of food for young fish and crustaceans--creatures that become an essential human food source. Marshes also aid in the decomposition of wastes and recycling of nutrients. Directly or indirectly, they provide recreation for human bayside residents.

Wetlands provide food and resting areas for thousands of waterfowl and shorebirds in their long migrations. San Francisco Bay hosts an amazingly diverse and numerous population of avifauna.

Since 75% of San Francisco Bay's historic wetlands--

marshes and mudflats--have already been lost, we need to keep all the marshlands that we have now, and to restore as many areas as possible.

176

II. Development will have an adverse effect on movements of wintering populations, and may also remove habitat for rare and endangered bird and mammal species.

177

It is premature to make a reasonable assessment of the year-round wildlife use of the Cullinan Ranch area. There has been no Habitat Evaluation Procedure by the U.S. Fish and Wildlife Service, and the Biological Assessment of the Corps of Engineers has not been completed. These studies will give us a better basis for judgment.

178

III. Air quality will be worsened by the over-use of State Highway 37 at peak hours. Commute traffic congestion causes over-heating of engines and greater emissions result.

The Vallejo area has already suffered from above-standard carbon-monoxide pollution. Adding more pollution on a warm, windless day will create substandard conditions.

179

Mitigation of this situation could be costly to all the citizens of Vallejo and it is noted that it is not suggested.

IV. Water quality is another situation where a tenuous balance can easily be jeopardized. San Francisco Bay's oxygen content is consistently adequate for the support of life only in deep water areas and in the north bay. The ecosystem as a whole depends on the maintenance and circulation of these waters. It follows that the north bay must continue to maintain its oxygen content.

The use of numerous canals and docking facilities in the Cullinan Ranch development suggests the possibility that water from these installations may not always be free of pollutants. Suggestions for mitigation of accidental spills and collisions are commendable as far as they go. However, it should be realized that even a small amount of petroleum in the water can upset the oxygen balance. In addition, boat operation does entail deposition of small quantities of oil and other debris, such as paint flakes, in the water. Berthing facilities are

180 planned for at least 1700 vessels. There could be enough foreign matter accumulated to overload oxygen capacity, especially during the rainy season when run-off from streets would add more grease and gunk.

It is felt that there should be studies to determine the effect of circulating boat dock water with bay water.

181 V. The plans for bringing water into the development and for transporting sewage back to Vallejo have not been finalized. Water and air quality could be adversely affected if inadequate arrangements were to be made. The developer's willingness to meet the specifications of the utilities is creditable.

182 VI. Growth inducing impacts are possible if further developments are proposed. Three possibilities exist, none of which would be desirable from a wildlife viewpoint.

183 The parcel of land west of the Cullinan Ranch, north of SR 37, bounded by the Solano-Sonoma County border on the west and the Naval Reservation on the north should remain as open space. Ohlone Audubon members have seen numerous wildfowl here in the fall and winter. Ponds and marsh should be preserve<sup>d</sup> because of the use by migrants and the nearness to San Pablo Bay National Wildlife Refuge.

The area north of the Cullinan Ranch and west of the Napa River, bounded on the west by the county line, and including Russ Island, Island No. 1 and Knight Island, has remained free of human intrusion. There are no roads into the area. Thus, it has not been evaluated for wildlife use. This same remoteness could enhance its wildlife values, however, and we hope it, too, can be kept for open space.

The Naval Reservation could not be opened for development now, but if the area should be declared surplus by government, the Cullinan Ranch development would have set a dangerous precedent.

As a member of Ohlone Audubon Society, I strongly recommend that the decision be postponed until all the reports and research can be evaluated. In the event this cannot be done, we would pre-

fer Option D.

184

When the decision is made, should it be for Options A, B, or C, we would like to suggest that a possible mitigation could be funds in an amount sufficient to purchase the parcel first described, to the west of the development, so that it could be donated to the National Wildlife Refuge.

Sincerely,

*Elsie Richey*  
Elsie Richey

Owen Hughes

Conservation Committee

Ohlone Audubon Society

Elsie Richey  
1610 142nd Ave.  
San Leandro, Ca 94578

**LETTER #G-8**

175. Comment noted. Marsh restoration is not one of the alternatives to this project (see response to comment 104). The value of wetlands and marshes to wildlife is recognized.

176. See response to comments 45, 46, and 48 for information regarding potential impacts of the project on bird movement. Appendix IV.L, Pages 94-101 discusses potential impacts of the project on rare and endangered species. See also response to comment 120.

177. A Habitat Evaluation Procedure (HEP) analysis was recommended as a mitigation alternative in the Draft EIR/EIS, Page 74. The logistics of doing a HEP analysis are being investigated by the project proponent. The Biological Assessment prepared by the U.S. Army Corps of Engineers is included in Appendix IV.L and summarized in the Vegetation and Wildlife section of the Final EIR/EIS.

178. Comment noted. CO concentrations are discussed on pages 105-112 of the Final EIR/EIS.

179. Small amounts of gasoline spilled from boats in the marina would be expected to evaporate rapidly from the water surface without affecting the oxygen content of the water. However small amounts may dissolve and could conceivably have a toxic effect on aquatic life. Marina regulations could be imposed prohibiting major vessel overhauling or painting to minimize the effects of vessel-related debris on sediment and water quality. There is no doubt that copper-based anti-fouling paints can adversely affect water quality and sediment in marinas. The development management should encourage the use of less-toxic alternatives to copper based paints. The EPA has established copper level criterion for fresh water and marine aquatic life of "0.1 times a 96-hour  $LC_{50}$  as determined through nonaerated bioassay using a sensitive aquatic resident species." (Definition from EPA, Red Book: Quality Criteria for Water, July 1976.) Although relatively high concentrations of copper may be tolerated by adult fish for short periods of time, the critical effect of copper appears to be its greater toxicity to young or juvenile fish. Natural copper concentrations in sea water are about 3 micrograms per litre (ug/l). Levels to 60 to 100 ug/l appear to be toxic to some species of marine plants and bivalves but vary to as low as 25 ug/l for very sensitive species. A more satisfactory criterion could not be established by EPA.

The Review Panel of the American Fisheries Society, Water Quality Section, April 1979, was very critical of the Red Book copper section in that it was of limited value since (1) the text appeared to be based on outdated studies and inadequate biogeochemistry, (2) the recommended criterion required too great an effort by local authorities to identify "sensitive aquatic resident species" in order to make the required determination of copper levels, (3) it is unrealistic to assume all dischargers would perform adequate and sufficient environment and (4) the text does not outline how the bioassays would be performed, regulated and evaluated.

180. Under no circumstances would wastewater discharge into the lagoon be permitted by the Regional Water Quality Control Board.

181. Both the Water Superintendent (see comment 255) and the VSFCO Manager (comments 250-252) have provided additional information in comment upon the Draft EIR/EIS regarding details of required infrastructure to supply water and sanitary sewer to the site. The developer would be required to meet the specifications of these agencies.

182. See responses to comments 43 and 144.

183. Comments noted. See response to comment 49.

184. Acquisition of an off-site parcel of land as a mitigation alternative was suggested in the Draft EIR/EIS, Page 74, Paragraph 6. Details regarding acreage, location, restoration, maintenance responsibilities, and adequacy of compensation would have to be negotiated between the landowners and California Department of Fish and Game, and the U. S. Fish and Wildlife Service, and perhaps with the assistance of the U. S. Army Corps of Engineers and the City of Vallejo.

C1

# Save San Francisco Bay Association

P.O. Box 925 • Berkeley, California 94701 • (415) 849-3053 • 849-3044

## HONORARY ADVISORY BOARD

June 29, 1983

Ansel Adams  
 Mrs. Harmon C. Bell  
 Mrs. Murray R. Benedict  
 David R. Brower  
 Paul Covell  
 Rodney J. Diridon  
 Barbara B. Eastman  
 Douglas P. Ferguson  
 Francis P. Filice  
 Harold Gilliam  
 Mrs. Ralph Jacobson  
 Thomas S. Jordan, Jr.  
 George R. Kane  
 T.J. Kent, Jr.  
 A. Starker Leopold  
 Irwin Luckman  
 Martin Meyerson  
 Robert C. Miller  
 William Penn Mott, Jr.  
 Julius von Nostitz, Jr.  
 Mrs. Henry T. Read  
 Frank M. Stead  
 Sherwood Sullivan  
 Fred H. Tarp  
 Georg Treichel  
 John Tutear, Jr.  
 Donald Vial  
 Mel Wax  
 Warren B. Wilson

Ann Merideth  
 Planning Department  
 P.O. Box 3068  
 Vallejo, CA 94590

Lt. Col. Edward M. Lee, Jr.  
 District Engineer, S.F. Dist.  
 U.S. Army Corps of Engineers  
 211 Main Street  
 San Francisco, CA 94104

RE: Draft EIR/EIS for Cullinan Ranch, Vallejo, CA

Dear Ms. Merideth and Colonel Lee,

Save San Francisco Bay Association, a non profit citizens' organization with 20,000 members, was organized in 1961 to preserve open water, protect wildlife habitat, and promote scenic and recreational values of San Francisco Bay. Our Association has reviewed the subject environmental document and offers the following comments.

## BOARD OF DIRECTORS

William E. Siri  
PRESIDENT  
 Michael E. Belliveau  
VICE PRESIDENT  
 Barry L. Bunshoft  
VICE PRESIDENT  
 Dexter S. Chan  
 Mrs. Jack C. Chapman  
 George Ellman  
 David Fogarty  
 Philip E. Gordon  
 Sylvia M. Gregory  
 Mrs. Charles A. Gulick  
TREASURER  
 Mary Lee Jefferds  
 Mrs. Clark Kerr  
VICE PRESIDENT  
 John Krautkraemer  
 R. Burton Litton, Jr.  
 Lisa McGimsey  
 Mrs. D. H. McLaughlin  
SECRETARY  
 Kurt Rademacher  
 Laura L. Rogers  
 Doris Sloan  
 Susan M. Smith  
 Jean Starkweather  
 Dwight C. Steele  
 Barbara Vincent  
 Richard L. Wade  
 Donald R. Weden

185

The EIR/EIS does not adequately address alternatives to the proposed project. Of the four alternatives discussed, no really reduced project is included. Alternative B - Reduced Project, proposes exactly the same number of housing units and the same number of boat berths, squeezed into a smaller land area. The impacts of this project would be little different from those of Alternative A - Project as Proposed. A significantly reduced project should be included in the Final EIR/EIS, as well as an alternative on an upland site, elsewhere in Solano County.

186

The EIR/EIS does not adequately address growth inducing impacts of the proposed project. This project would invite development of other diked agricultural wetlands along Highway 37 to the west of Cullinan Ranch. If utility, sewage and other services are extended across the Napa River to Cullinan, additional projects will be encouraged. The Final EIR/EIS should address this impact in detail.

187

The EIR/EIS does not adequately address the impacts of the proposed project to the entire region. The Napa marshes are habitat to many species of wintering waterfowl and year round wildlife species. Fish and wildlife experts predict that the impact on wildlife from urbanization and greatly

Cullinan Ranch  
Continued

increased boat traffic will be significant. Development of the proposed project will have a very serious impact on an area much greater than the boundaries of the project. This impact should be addressed in detail in the Final EIR/EIS.

188

The EIR/EIS does not discuss the possibilities for restoration of the site to its original wetland condition. Wildlife and marsh maintenance experts have stated that such a restoration project would be relatively easy to accomplish, once the land was acquired. Extensive excavation needed in other marsh restoration projects would not be required if the Cullinan Ranch were restored to tidal marsh. Such areas are scarce, and are needed to meet mitigation requirements for other Bay Area projects. Thus, restoration could be an economically feasible and valuable alternative.

189

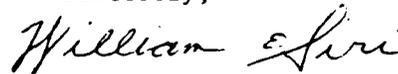
The EIR/EIS does not disclose where the 13.2 million cubic yards of imported fill needed will come from. This is an important consideration and should be answered in the Final EIR/EIS.

190

The EIR/EIS does not adequately address the proposed need for maintenance dredging in the marina basin. Other marinas in the Bay Area have closed because of the extraordinary needs and costs of maintenance dredging. Who will pay these costs in the proposed project?

The Association appreciates the opportunity to comment on this important and far-reaching proposal. Our comments on the technical reports will be provided by experts we have consulted for this purpose. We look forward to providing further input into this proposal as it progresses through the regulatory agencies responsible for protecting the public interest in the Bay.

Sincerely,



William E. Siri  
President

**LETTER # G-9**

185. New alternative E is a reduced project alternative. See the alternative discussion in the Final EIR/EIS beginning on page 10 and see response to comment 103.

186. See response 72.

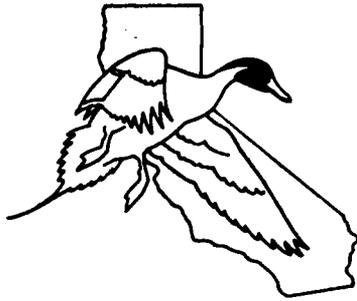
187. Comments noted. See response to comments 45, 46, 48, 55 and 56.

188. Comments noted. See response to comments 88 and 104.

189. Please see responses 25 and 57.

190. The Final EIR/EIS indicates that based on the initial channel design 20 years will elapse before the first maintenance dredging is necessary. Sedimentation will occur at an estimated rate of 0.5 feet per year, however, and consequently dredging will have to be undertaken at the end of the 20 year period if the channels are to remain navigable. For a discussion of who pays the cost of dredging see Response 1.

c/



## CALIFORNIA WATERFOWL ASSOCIATION

555 VETERANS BOULEVARD • REDWOOD CITY, CALIFORNIA 94063 • (415) 365-3072

June 28, 1983

Ms. Ann Merideth  
Planning Department  
CITY OF VALLEJO  
P.O. Box 3068  
Vallejo, CA 94590

RE: Comment on the draft EIR/EIS for Cullinan Ranch

Dear Ms. Merideth:

The California Waterfowl Association is a private, non-profit organization which represents over one hundred thousand waterfowl hunters in the State of California. In addition, it indirectly represents the interests of many other individuals and groups who favor the preservation of marsh habitat in our state.

Of the five million acres of wetlands which once existed in California, only 10% remain today. This dramatic loss of habitat has caused a commensurate loss of wildlife which rely for their very existence on the habitat which has been lost.

A few years ago, the state legislature enacted SCR28. This important legislation recognized the importance of wetlands and ordered the Department of Fish and Game to develop a plan to protect existing wetlands and more importantly to expand existing wetland acreage by 50%.

The United States Fish and Wildlife Service has identified the Napa Marsh as the number one priority for waterfowl wintering habitat preservation for the California coast. It is obvious to us that the Napa Marsh must be preserved and hopefully enhanced in order to maintain its value to both wildlife and man. In the over twenty years that our organization has been reviewing projects for their impact on waterfowl, we have never seen one, even in preliminary stages, which has such a negative impact. We feel that the only alternative that is in the public interest is the No Project Alternative.

I will now discuss specific issues in the draft EIR/EIS report:

191

On page 73, you noted our endorsement to convert the property to a tidal salt marsh. This is incorrect. We endorsed a plan to manage the property as a brackish water marsh.



## CALIFORNIA WATERFOWL ASSOCIATION

555 VETERANS BOULEVARD • REDWOOD CITY, CALIFORNIA 94063 • (415) 365-3072

Ann Merideth

6/28/83

Page Two

The report addresses itself to the changes on the property itself and spends too little time discussing the effects that this project would have offsite.

192 The Napa Marsh and San Pablo Bay are the primary wintering habitat for the canvasback duck. The added boat and foot traffic throughout the marsh will surely reduce the entire areas value to this very timid specie. The canvasback duck is the only common duck which has a reduced bag limit. This demonstrates the care that must be taken to insure its well-being. During stormy weather the ducks are forced off the bay waters by the high waves and seek the Napa Marsh for protection. If they are uncomfortable entering an area where they have been or are being harassed, they will have to leave the area, perhaps not to return. The reduced value of this area to the canvasback duck would adversely impact their population on the entire Pacific Flyway. The final EIR should address itself to this specific impact.

193 Water oriented residential and marina developments are almost always accompanied by a resident population of tame and semi-tame ducks and geese. Experience shows that these populations are more susceptible to disease than the wild population. Perhaps the most feared disease is duck viral enteritis (DVE). This disease, which is almost always traced for origin to domestic ducks, is of such great concern because it has no known cure. When a DVE outbreak occurred in the pond at the Palace of Fine Arts in San Francisco, the entire waterfowl population was destroyed, the pond was drained and had to be decontaminated before refilling. The Department of Fish and Game moved swiftly because they feared that wild ducks would fly into the pond, contract the disease, and leave to spread it to the wild population. The Cullinan Ranch is nearly surrounded by a year-round wild duck population. An onsite outbreak of DVE could easily spread to the wild population with unthinkable results. The final EIR should address itself to this serious potential impact.

194 While it is not the purpose of this letter to address itself to water quality issues, there is a wildlife impact which has not been discussed. The addition to the tidal prism at the sites location will result in higher average salinities throughout the marsh. At present, the salinities along South and Dutchman Sloughs support brackish water plants. Increased salinities may

C1



# CALIFORNIA WATERFOWL ASSOCIATION

555 VETERANS BOULEVARD • REDWOOD CITY, CALIFORNIA 94063 • (415) 365-3072

Ann Merideth  
6/28/83  
Page Three

195

totally change the mix of plant species. The reduction of brackish water plants such as alkali bullrush would have an adverse effect on the food value available to wildlife. The change in salinity will also affect the value of the Napa Marsh as a nursery for newly hatched fish. The final report should include a study of the potential for increased salinities and the resultant impact on all wildlife.

196

The United States States Fish and Wildlife Service, as indicated in the draft report, has placed a high priority on the preservation of the Napa Marsh. We strongly agree with the statement in the report that a Habitat Evaluation Procedure (HEP) analysis must be conducted by FWS prior to their final impact to the final EIR/EIS.

197

The Harvey & Stanley Associates report concludes that the net effect of the project would be an increase in overall wetland value. The data in the report does not support the conclusion and when the marsh-wide factors addressed in their letter are taken into consideration, I'm sure that an opposite conclusion will be reached. The type of considerations covered in the Harvey & Stanley report should be expanded to the entire marsh before their conclusion can be valid for the final EIR/EIS.

197a

Many of the impacts of this project can be solved with money, such as schools, roads and utilities etc. The added costs for site specific maintenance such as dredging and settlement correction can also be solved with dollars. The impact on wildlife, however, is unmitigatable in this situation and would, therefore, dictate the No Project Alternative.

Members of the California Waterfowl Association are available to discuss the substance of this letter with any interested parties. To arrange a meeting, please contact John L. Winther, 12 El Sereno Road, Orinda, CA 94563 or by phone (415) 254-4978.

Respectfully submitted,

John L. Winther  
Member Resources Committee  
California Waterfowl Association

**LETTER # G-10**

191. This information has been corrected in the Final EIR/EIS (see Page 73A).

192. In a response to comments sent to W. R. Williams, Inc., (September 20, 1983), Harvey & Stanley Associates responded to this comment. The following is quoted from their response:

"During this past year the distribution of canvasbacks in the Napa marshes and San Pablo Bay was carefully watched. The majority of the canvasbacks rested in the waters of the San Pablo Bay, secondarily on some of the salt ponds, and thirdly on the waters of the Napa River. During hunting season, there was less utilization of the Napa River, and of the salt ponds. At the end of the hunting season they were more widely dispersed, particularly along sections of the Napa River. Other factors are likely involved and no hunter survey was conducted, but the correlation with hunting periods was evident and expected. The shallow waters of the North San Pablo Bay were the preferred resting spot upon the approach of several incoming storms. Overall, there was little utilization of the sloughs and marshes. Flooded uplands adjoining the Napa River were also used.

"Additional boat traffic along the Napa River would create disturbance and such boat traffic could be expected. Again, traffic generated by the proposed Cullinan Ranch marina would be sporadic, with the bulk of disturbance potential on weekends, holidays, etc. Approaching storms would additionally limit boat traffic.

"The waters of the North San Pablo Bay are more vulnerable to disturbance. Additional boat traffic in this area could be highly disruptive. Considerable protection is afforded by the shallow waters of the area which limits many boats from entry except at highest tides. Additionally the waters are protected as part of the San Pablo Bay National Wildlife Refuge, and harassment of wildlife is forbidden. The strength and enforcement abilities of this protection are limited, however. Discussions with Moffat & Nichols have indicated that most of the smaller, shallow draft boats would likely stay in the Marina itself and in adjoining sloughs. Because of the shallow nature of the North San Pablo Bay, use of this area would primarily be by such shallow draft boats. These are not likely to traverse from the Marina, out the Napa River, and around Mare Island to find recreational

boating areas. However, fishing in the area may increase.

"Thus, protection of the canvasback wintering habitat is important and of concern. Direct impacts of the development on site would be limited. Indirect impacts from boat traffic will occur, but are likely to be tempered by seasonal factors and logistical problems regarding water depths."

193. In a response to comments sent to W. R. Williams Inc., (September 20, 1983), Harvey & Stanley Associates responded to this comment. The following is quoted from their response.

"Duck viral enteritis is indeed a concern of all waterfowl managers in the United States, and abroad. Since its appearance in the United States in 1967, among commercial flocks of Pekin ducks on Long Island, a number of scattered outbreaks have occurred. All reports of DVE have been in captive or domestic waterfowl, except in the United States, where it occurred in wild waterfowl (Friend and Pearson 1973). The 1972 outbreak of DVE at the Fine Arts Lagoon in San Francisco in which 100 captive waterfowl were killed, was followed by a much more serious outbreak of DVE at the Lake Andes National Wildlife Refuge in South Dakota. In this case more than 40,000 ducks, primarily mallards, died, illustrating the potentially devastating effect of the disease.

Stagnant or slow-moving bodies of water contaminated with the virus are believed to be an important vehicle of transmission in domestic duck outbreaks. Water may have also been a vehicle in the Lake Andes outbreak (Friend and Pearson 1973). The flushing action for the proposed marina should help to prevent stagnant water which could transmit the virus. However, little is known of the natural history of DVE in wild waterfowl, and crowding may facilitate outbreaks, as may the proximity of domesticated ducks and geese to wild populations. Careful monitoring of populations is really the only known management tool, with early detection key to preventing spreading of the virus. Outbreaks are possible throughout the year, with incubation about 6-10 days and death within a week of the development of clinical symptoms. The flushing of the marina should be combined with a monitoring of the waterfowl. Such monitoring might be accomplished by a volunteer group, or assigned to responsible agencies."

194. The salinity of water in the slough system reflects that in the Napa River. Salinity may vary from 0 parts per thousand during the winter when the river is in flood to 27

parts per thousand in the fall when river flow is insufficient to repel the salt water from the bay. Viewed in the context of this system the increase in the size of the tidal prism is insignificant and so the salinity of water in the sloughs can be expected to remain the same as existing except perhaps for very short periods during storms.

195. Water quality is discussed in the *Final EIR/EIS* (Pages 37-42). As long as adequate tidal circulation is maintained in the project waters, "other water quality parameters such as temperature and salinity are not expected to vary significantly from the values found in the adjacent sloughs and Napa River." Increased salinities in South and Dutchman Sloughs are not expected to be of enough magnitude to alter the mix of plant species and, therefore, would have no impact on fish inhabiting the sloughs and Napa Marsh.

See the RMA/Krone Report in the EIR/EIS appendix for further information on water quality, tidal prism, and salinity. See also response to comment 194 regarding salinity changes.

196. Comment noted. In the Vegetation and Wildlife section of the *Final EIR/EIS* (Page 74), it states that, "A complete Habitat Evaluation Procedure (HEP) could be implemented using FWS guidelines to compare the existing value of the wildlife habitat with the projected habitat value of the project and with the project habitat value of a restored tidal marsh." The logistics of conducting a HEP analysis are being investigated by the project proponent.

197. Comment noted. The proposed development would change the habitats that currently exist on the Ranch. Approximately 400 acres of open water (excluding the marina), 46.5 acres of mudflats, and 40 acres of tidal marsh habitat would be created. None of these habitats exists at the present time. The opportunity for more waterfowl and shorebird use of the property is high, but use is dependent upon the quality of these new habitats and how much of a role the human presence plays. American coots, ruddy ducks, double-crested cormorants, and gulls may benefit by the open water habitat but canvasback, pintail, shoveler, wigeon, and scoter are less likely to use the area.

If the mudflats supported healthy populations of benthic infauna and were exposed at low tide, shorebirds may be attracted to the area. The human disturbance factor is again important because shorebirds usually do not tolerate high levels of human activity (Oviatt et al. 1977). Maintenance dredging could eliminate much of the benthic infauna unless

precautions, such as dredging on a controlled, limited basis were taken to protect the existing bottom invertebrates. The narrowest possible channel should be dredged to protect bottom dwellers. A preliminary slow, shallow dredging which moves the top layer aside would likely reduce overall loss of the infauna. This could be followed by a deeper dredging.

A total of about 40 acres of tidal marsh could be established on the perimeter of the project's open tidal water. Those areas of tidal marsh on the interior levee should experience use somewhat similar to those along Dutchman and South Sloughs. Several mitigation measures would have to be implemented to ensure the highest quality of tidal marsh for wildlife use. A broad band of natural vegetation around the development's peninsulas would increase the wildlife value of the mudflats and tidal marsh by limiting man-made structures and ornamental vegetation within this zone. Shaping islands, extending the areas of tidal marsh, and planting vegetation in the levee area to provide wildlife cover would help to ensure use of the area by many wildlife species.

Whether the creation of these new aquatic habitats represents an increase in overall wetland value is a matter for discussion. The new aquatic habitats, in themselves, would represent an increase in overall wetland value on the project site since these habitats do not exist at the present time. If the project is implemented, however, there will be 3,000 single family residences and 1,500 medium density residential units located on the Cullinan Ranch site. When the potential for human intrusion into this area and the relationship of the project site to the Napa Marsh, Leslie Salt Ponds, and San Pablo Bay are taken into consideration, it is doubtful that the net effect of the project would be an overall increase in wetland value.

Although the Cullinan Ranch is predominantly agricultural fields and not especially suited to use by wetland or water-associated species, at present, the importance that isolation and lack of human disturbance play in its attractiveness to wildlife or its buffering effect to the Bay and Napa Marsh are difficult to measure.

197a. Comment noted.

Received 6/6/83

X  
CI

1730A Jones Street  
San Francisco, Ca 94109  
May 27, 1983

Attn: Lead Agency Contacts.

Ms. Karen Mason (Roger Golden,  
Regulatory Action Officer EIS Coordinator)  
S.F. District, US Corps of Engineers  
211 Main Street, S.F./Ca 94105

Ms. Christy Huddle, Vallejo Planning Department  
555 Santa Clara St., Vallejo, Ca 94590

Re: Comments on the draft EIR/EIS for Cullinan Ranch,  
a 1400 acre parcel in the San Pablo Bay estuary,  
west of the Napa River and city of Vallejo.  
A residential/commercial development in an historic  
marsh area.

As chair of the Wetlands Coalition of San Francisco Bay  
and as one who has been part of a 4 year study of wetlands  
and their importance to the commercial and environmental  
vitality of this region, I urge 'decision makers' to  
select Alternative #D - NO PROJECT.

The facts - legal, regulatory and historic common law  
regarding navigation and public trust issues - should  
tell the developer that the remaining wetland estuaries  
of S.F. Bay must be protected for the good of the whole.  
Cullinan Ranch should be restored to marsh habitat when  
no longer usable for agricultural purposes.

It would, thus, be in the best interest of the public  
and the best interest of the developer for responsible  
officials to adopt Alternative 'D' as early as possible  
because of a finding of significant adverse impact  
on the environment were the alternatives A, B, or C  
selected.

The earlier such a decision, the lower the speculative  
costs for the developer and the sooner he can take  
advantage of tax write offs and tax benefits for deeding  
this land over to agricultural/wetland uses.

The EIR/EIS is excellent and even outstanding in many ways.  
The primary and even fatal weakness is in full disclosure of  
all short and long terms costs to taxpayers of this  
development. These are obscured or lacking.

The public is NOT told in this document why there are so  
many policies protecting wetlands. The importance of  
wetlands to the public should be fully described.

In brief we have lost some 80% of our original Bay marshes  
and in the nation over 50%; such marshes are considered  
vital for fish and wildlife - as nursery and food source

198

for a food chain that ends with US! Marshes produce the oxygen we breathe, cleanse the surrounding air and water circulating through; marshes act as temperature moderators; marshes, wetlands and adjacent upland areas add variety and scientific values beyond count to our environment and public life.

HERE ARE SPECIFIC COMMENTS ON THE DRAFT EIR/EIS.

These comments are made from several different viewpoints - that of would-be future homeowners, the viewpoint from the perspective of Vallejo taxpayers, regulatory officials, environmental concerns and others.

1. Would-be Cullinan Ranch homeowners over next <sup>w</sup>to decades.

The draft EIR suggests quite vividly that for the would-be homeowner, a home site on the Cullinan Ranch fill would be akin to sitting down on a coiled rattlesnake.

Approval of any development alternative A,B,C would lead homebuyers to underestimate the costs and risks of living on filled historic marshland.

The Vallejo City Council, by approving this project, would assume full responsibility to homeowners because these risks and the many unknown costs have been at least partially identified in the EIR. No new homeowner in the future is likely to read this document (unless he/she decides to sue), and, therefore, the Vallejo City Council judgement in this matter will be the assurance given new homeowners that the project is safe and worthwhile.

THESE ARE SOME OF THE RISKS FOR HOMEOWNERS IDENTIFIED IN THE EIR:

(1) Page 56, para. 4.

Developers, as I read it, cannot afford the building techniques and materials the soil analysts says is required.

To obtain the maximum amount of fill from dredging lagoons, the developer will cut them to 30 feet. However, the soil engineer estimates stability requires a maximum cut of 20 feet. At 30 feet the strength of the lagoon banks 'will be marginal'.

Page 44, para. 4.

Sedimentation impacts should not be serious as long as channel banks are reasonably stable!

The amount and cost of dredging and bank maintenance have not been estimated or assumed by developer. Therefore, these may be a cost (unknown) for homeowners and Vallejo taxpayers.

continued ...

199

200

Risks for Homeowners continued ...

PAGE 15, para. 1.

The city of Vallejo's recently revised Land Use and Circulation Element of the General Plan makes specific comment about the Cullinan Ranch site, 'high water table and poor seismic response makes this area, unless extensively filled, unsuitable for urban development' and 'proximity to wetlands will necessitate buffering the wetlands from more intense urban uses'.

One asks first if extensive filling, in fact, does successfully overcome the dangers of such a site. What about the wetlands?

P. 56, Para. 1 warns that bay muds and clays excavated from the lagoon are weak in strength.

201

P. 56, Para. 2 states that Harding Lawson Assoc. require 'tied back bulk-heads' but the construction method was discarded in favor of using compacted fills due to cost. So much for safety in construction when using high hazard bay muds.

P. 53, Para. 8 mentions large ground settlements of as much as 3 feet in peat areas receiving 10 feet of fill.

202

Yet Page 36 shows that to prevent flooding the elevations will be 10.4 feet MSL 'well above the maximum predicted flood elevations' which are 7.4 MSL.

What happens with the 3 feet of settlement areas?

203

Page 54, Para. 1 mentions that settlement could be much worse if fill derived from dredged source. There will be 3 million cubic yards of dredged material and 13 million cubic yards imported THE SOURCE UNKNOWN!

It would appear wrong for the Vallejo City Council to assume that the kind of extensive filling planned will provide adequate and safe housing.

HIDDEN COSTS TO VALLEJO TAXPAYERS AND CULLINAN RESIDENTS.

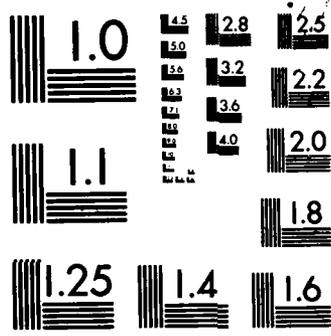
204

Another area of great concern is the fact that many substantial cost factors are not identified or quantified. The financial risk appears considerable for both would-be homeowners at Cullinan and Vallejo taxpayers. Once Vallejo annexes Cullinan won't Vallejo be required to provide all services even if developers made some commitment at an earlier date? Once joined to a special district for sewage or flood control - won't all members of the district have shared costs?

205

Since most utilities must cross the Napa River, the means and methods must be disclosed and the costs, using an approved route. There are maintenance problems and pumping costs alluded to as using the bridge seems out.





MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

Unknown costs to homeowners and Vallejo taxpayers.

Gas and Electricity - P. 122 in regard to needed substation.

"It is not certain at this time if all the necessary land rights or permits can be obtained or if an off site substation is technically or economically feasible".

Police/first station - P. 124.

206

A combined polic/fire station is needed but not funded by the developer.

Schools - P. 119, 120.

All the adjacent Vallejo schools are full - but 4 to 6 years would pass with 770 residential units constructed before a school would be built at Cullinan.

207

Cullinan will have some 600 high school students - none is to be built there - there is no room in nearby Vallejo.

208

Library - needed and not funded.

209

Parks - needed and not funded or sites ill suited - p. 121.

210

Water supply, sanitary system require major investment not provided by developer.

211

The potential costs to Vallejo taxpayers appears excessive and without limit once this project is approved and annexed.

TABLE III - P. 20 shows that through the first four phases in terms of identified costs the project costs Vallejo money.

212

ENVIRONMENTAL HAZARDS over and above those indicated above.

213

Who pays for banks that collapse and annual dredging?

The source of fill is a cumulative impact and must be identified.

214

Federal air standards are exceed in the Bay Area so that any development which creates major traffic congestion as this does is extremely undesirable. Page 90 reports that a good share of Route 37 and a portion of Route 29 will remain at Level of Service F with this development. 'F' is 3 grades BELOW the level considered adequate!

215

P. 55 - Transporting of fill and construction materials if through Vallejo will have a major adverse impact on certain areas of Vallejo - this information must be disclosed. When, how often, where - Vallejo residents will need to know.

216

P. 73 acknowledges the likely secondary impact of placing a residential area within a marsh area that already has a mosquito problem.

continued ...

217

GOVERNMENTAL POLICIES AND CUSTOMS PROHIBIT WETLAND DESTRUCTION.

All of the following agencies have specific policies or mandates which would deny permits to projects like Cullinan Ranch. These are identified in the Draft EIR/EIS.

P. 24 - BCDC Diked Wetlands policy opposes such projects as Cullinan.

P. 19 - County of Solano opposes the conversion of Agricultural lands.

P. 65 - Dept. of Fish and Game policy for S.F. Bay:

1. Historic tidal marshes should be restored to that function.

2. Upon cessation of agricultural use, historic marsh/wetland areas should be used for fish and wildlife habitat.

P. 62 - U.S. Fish and Wildlife describes Cullinan Ranch as 'paulustrine farmed wetland'.

The Napa Marsh (Page 67) is the #1 priority for winter waterfowl habitat conservation in the State.

P. 66 - State Senate Concurrent Resolution #28, April 1979 advocates protection and expansion of wetland habitat within the State of California by 50% (last para.)

IRREVERSIBLE IMPACT.

218

The foreclosure against wetland restoration of agricultural land which is an integral part of the San Pablo Bay estuarine system should be considered an unacceptable, irreversible impact.

I urge decision makers to respond to this.

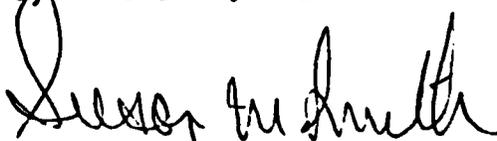
PUBLIC BENEFIT.

Additional housing is the public benefit mentioned by which a permit can be issued for development. However, housing is not considered a beneficial use of wetlands and thus the public interest is NOT well served.

Once more to qualify, housing must be safe, reliable and affordable and without financial risks for taxpayers, homeowners and without environmental degradation for the region as a whole. The Cullinan Ranch does not qualify by the disclosures of this EIR.

Decisions makers are urged to make a finding of significant adverse impacts for Alternatives A, B, and C and to adopt Alternative D, no project.

By: Susan M. Smith



**LETTER # G-11**

198. Coastal wetlands are important for many reasons. Beyond their aesthetic value, wetlands play a vital role in the overall health of California's coastal ecosystem. They produce an abundance of vegetation which, in turn, provides the basis for a complex food chain nourishing a rich assortment of living organisms.

Wetlands are among the most productive ecosystems in the world (Teal and Teal, 1969). Wetlands provide a wide variety of animals with food, breeding sites, resting areas, nesting materials or sites, moulting grounds, or protection from weather or predators. Some species depend on wetlands for all of these function while others may use them for only one or two, or during a portion of their life cycle.

199. With regard to using sheet pile bulkheads: preliminary site investigations provided design parameters for this method only for the purpose of feasibility studies, and not necessarily as the recommended method. Sheet pile bulkheads are expensive and their anticipated use would be limited, if required at all, since other proven methods are available. Please see Response 127.

Slope stability has been evaluated for excavation below Elevation -30, and can be made stable with proper slopes and careful construction. The deeper bay mud is overconsolidated and the actual "safe" slopes will be determined during final design.<sup>1</sup> Please see response 127 for further discussion of slope stability and Appendix IV.J for an outline of proposed future studies.

To insure correct use of excavation techniques it is proposed that a test pit be dug on-site to assist the contractor in evaluating those ground conditions expected to be encountered in actual excavation.<sup>2</sup>

200. See response 23.

201. Please see response 127.

202. Please see Response 42.

203. Please see response 25.

204. Once annexed, the City of Vallejo would be required to provide general government services. The Economic/Fiscal analysis in the Final EIR/EIS indicates that the project would fully support these costs. Ongoing maintenance costs to provide wastewater and flood control service to the project would be shared by members of Vallejo Sanitary and Flood Control District (VSFCD).

205. The Water Superintendent (see comment 255) and the VSFCD Manager (see comments 250-252) have indicated that water and sanitary sewer mains would need to be located on the Napa River Bridge. The exact cost of construction of these mains has not been determined because no agreement has been reached on the location. Discussions between the city of Vallejo, VSFCD, Caltrans and the developer are now underway.

206. The police/fire station would be supported by revenues generated by the project.

207. Comment noted.

208. The costs and revenues associated with the library have been included in the fiscal analysis which indicates that all such costs would be supported by the project.

209. Park sites have been provided in the project and these would be developed at the expense of the project sponsor through park dedication fees and maintained by a maintenance district so that the cost would be incurred by future residents of the project. The Junior High School site has been moved to avoid conflict with Napa Airport operations, but this site as well as 30 acres of the park sites remains close to areas of high traffic volume with resulting noise impacts.

The pedestrian trail system along the levee will be expanded to include improvements for bicycle traffic due the length of this segment of the trail system. Initially, the proposed plan limited this area to pedestrian traffic only as an alternative measure to increasing protection of the levee for wildlife use. With the segment along the levee, the total pedestrian/bicycle trail system will be increased from approximately 8.5 miles (as originally proposed) to some 13 miles.

210. The specific responsibility of the developer for costs of sewage treatment facilities has not been determined. However, the developer will be required to pay for those facilities specifically required by the project.

211. The economic/fiscal analysis indicates that the project will have a positive balance in all phases.

212. Please see response 1.

213. Please see responses 1, 22, 25 and 57.

214. Because of violations of air quality standards in the Bay Area, a regional Air Quality Plan has been prepared. This plan allows for a certain amount of regional growth which is consistent with regional air quality goals. The consistency of the project with the Plan is discussed on page 108 of the Final EIR/EIS.

215. See response 10.

216. Please see responses 25 and 57.

217. Comment noted.

218. Comment noted. Development of the Cullinan Ranch property would result in the loss of an area which is potentially restorable to tidal marsh. Once developed, it would be an irreversible impact, as stated by the commentor. See response 159.

---

<sup>1</sup>Dennis H. Furby, CE 24480, Harding Lawson Associates, letter to W. R. Williams, Inc., March 17, 1983.

<sup>2</sup>Carl Neuhausen, W. R. Williams, Inc., telephone communication with EIP Corporation, January 16, 1984.

C1

1730A Jones Street  
S.F./Ca 94109  
July 6, 1983

Attn: Vallejo City Planning Commission

Re: Additional comments on Cullinan Ranch DEIR.  
First set of comments were sent in May 27, 1983.

Submission of additional material:

219

Wetlands Resolution - June 1983, from the Wetlands Coalition. The 20,000 member Golden Gate Audubon has endorsed the Resolution. Does the Cullinan Ranch development conform with wetland policies adopted by the major public interest groups studying bay wetlands?

S.F. Chronicle article July 6 WED - "How S.F. Port got Lucky". Enormously bad projects are often set before local decision makers - they are economically infeasible and environmentally disastrous but still proposed.

Two questions:

How many residential projects on the Bay Area over the last decade have had financial troubles?

How many projects in wetland adjacent areas over the past 20 years have complaining residents, high insurance claims and defaults?

S.F. Examiner July 3rd article, "Why builders are crossing their fingers." The chart shows that a medium priced home costs \$110,000 and requires an income of \$39,000, at 10% interest. However, interest rates have ranged over the the past years from 17% (\$59,000 income) to 12% for mortgages on new homes (\$45,000 income).

220

At the lowest interest rate of the last year - 12%, Cullinan homes costing \$215,000 (some 3000 homes) would require an annual income of \$85,000 or so. What is the average income of Vallejo residents and taxpayers and similiar communities around the Bay? What percentile of Americans have an income of \$85,000? Are Vallejo residents going to be subsidizing a project for the wealthy? Will the shiny new shopping malls of Cullinan draw business away from Vallejo? There are to be 1700 boats costing \$90,000 each - Table III-19. How many Vallejoans can afford these?

How many up-scale projects like this are being built in the Bay Area? What is the market for them? How many are currently unsold? What happens to income projects for Vallejo if all the homes need to be reduced to the median cost of \$110,000?

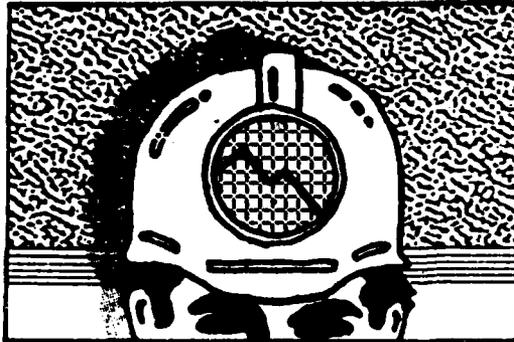
Lastly, the Dale Champion fullpage article in the S.F. Chronicle - THU JUN 30 - on Cullinan Ranch should appear in the record.

The facts urge that Vallejo decision makers encourage development within the boundaries of the city east of Napa River. Why not ask the Cullinan Ranch developers to participate in using the 2000 acres available for construction east of the River?

Thank you for your interest.  
Susan M. Smith

# BUSINESS WORLD

## DONALD K. WHITE / *Coal Terminal*



### How S.F. Port Got Lucky

The Port of San Francisco had an unusual stroke of luck back in 1977 although it didn't realize it at the time.

Port officials then were listening kindly to a grandiose plan to convert Pier 94 to a \$40 million coal exporting terminal to ship coal to foreign customers, mainly Japan.

If the plan had gotten off the ground, the port stood to get an income of as much as \$4 million a year in charges for coal moving over the pier on its way to the Orient.

In return, the port was asked by the terminal promoters to spend about \$1 million to dredge the area around Pier 94 from a depth of 40 feet to 47 feet to accommodate the deep draft bulk carrier ships that would take the coal out the Golden Gate.

Fortunately for the port the plan was never more than that. If it had been approved the port would have been stuck with another fiasco on its hands.

Two things saved the port commissioners from making an enthusiastic, but egregious, error.

One, the plan as proposed by Soros Associates of New York, a major shipping terminal developer, would have required environmental impact studies taking at least two to three years. And two, the expected boom in shipping U.S. coal to Japan never developed. The option taken on Pier 94 by Soros Associates was allowed to expire.

By mid-1980 coal port developers in the United States including Soros, "had escaped the financial embarrassment of being all dressed up with no place to go, thanks -- unlikely ally -- the environmentalists." 191

That's the assessment made in a new study by Herbert Webber, research fellow at the East-West Center in Honolulu.

Given the oil crisis of the mid- and late-1970s, all industrialized nations were looking for alternative sources of energy. In the United States, multi-billion dollar shale oil projects were under way. It was proposed seriously that the nation's corn surplus could be converted into a form of alcohol usable as automobile fuel. The situation, given the circumstances, was that silly.

But with the largest hoard of coal underground of any nation, the plan to send U.S. coal abroad at a profit had a certain validity and plans to develop new coal terminals were well received.

According to the East-West Center's Webber, the coal terminal promoters were betting on several things that didn't happen:

1) A movement toward coal as an energy source to reduce the dependency on oil in many Pacific Rim countries.

2) Continuing unstable labor conditions in the coal fields of Australia, Japan's major supplier, and the political situation in Poland, where coal is a major earner of western currencies.

The labor conditions in the Australian mines improved and, like it or not, Polish coal miners continued to dig.

In addition, the U.S. coal terminal promoters had not done their homework.

The plan proposed by Soros Associates for the Pier 94 project called for coal being hauled to the terminal from mines in the far off Rocky Mountains in open-top gondola cars along Southern Pacific's tracks.

The top layer of coal in the cars was to be sprayed with a film-like chemical to prevent the 100-car coal trains from spewing dust as the trains rumbled through populated areas. Compared to the way coal is hauled to ports in Australia, Canada and South Africa that would have been an expensive operation, but certainly one that would have been demanded, and rightfully so, by environmentalists.

But the major factor that brought an end to the terminal promoters' dreams of making a killing was the growing stability in the worldwide price of coal.

They were betting that ever increasing prices would make up for the fact that in selling coal to Japan more than half the cost of landing a ton of U.S. coal in that country is eaten up by transportation costs.

They lost the bet, for which port commissioners are forever thankful.

**ENDORISING ORGANIZATION**

Save San Francisco  
Bay Association

peninsula Conservation  
Center Foundation

Committe for Green  
Foothills

West Contra Costa  
Conservation League

Marin Audubon Society  
S.F. Bay Chapter of  
Sierra Club

**WETLANDS RESOLUTION**

June 1983

WHEREAS, the marshes and wetlands of the San Francisco Bay estuarine system are an ecosystem of elegance, efficiency and economy of vital importance to the health and well being of the total Bay Community, and;

WHEREAS, the marshes are the foundation of the marine food chain, providing the organic nutrients to feed both Bay and ocean life and are an irreplaceable nursery for fish and surface wildlife, and;

WHEREAS, such marshes and wetlands provide 1/3 of the world's oxygen supply while acting as a cheap and efficient tertiary sewage process that uses only organic agents, and;

WHERE AS, the marshes and wetlands of San Francisco have been reduced from 313 square miles to 59 square miles during this century, and now face extinction and the certain destruction of their great benefits to human health, economy and enjoyment,

THEREFORE BE IT RESOLVED, that we shall promote and aid the protection, restoration and enhancement of wetlands and marshes by URGING:

1. A program of public education and information describing the nature and value of wetlands, their locations around San Francisco Bay and various ways by which they can be protected.
2. Strict application of the public trust doctrine to all wetlands and diked baylands and adjacent uplands which can serve trust purposes of navigation, maritime commerce, fish, wildlife, recreation and open space.
3. Fulfillment of the intent of State Concurrent Resolution #28 (authorized by Keene, Filante and Kapiloff) adopted in 1979 to expand wetland areas in the state by 50% within the next two decades.
4. Identification of marsh and wetland areas in General Plans, overlay maps and ordinances regulating development and subdivisions by cities and counties. Wetlands are seismically hazardous; subject to flooding; and act as reservoirs protecting developed areas. Wetlands should be identified in the elements for Open Space, Conservation and Land Use in General Plans.
5. We urge denial by the Army Corps of Engineers of permits to construct in wetlands, diked baylands or adjacent upland areas unless in furtherance of public trust goals and federal and state wetland preservation policies.
6. Support the inclusion of diked baylands and wetlands under the jurisdiction of BCDC.
7. Support the assignment of highest priority to marsh and wetlands by the State Resources Agency in its consideration of significant natural areas in San Francisco Bay.
8. Support the revision of EIR guidelines to protect wetland habitat.
9. Support state and federal programs to emphasize the cumulative environmental impacts of Bay shoreline use and development projects and for development of a procedure to evaluate such cumulative impacts on a continuing basis.
10. Support existing State and Federal regulations including the Fish and Wildlife Coordination Act to preserve and enhance wetlands.

**SAN FRANCISCO BAY ESTUARY - WETLANDS RESOLUTION**

**LETTER # G-12**

219. It appears that the Cullinan Ranch Project does not conform to the Wetlands resolution adopted by the Wetlands Coalition, a private non-profit organization.

Neither the City nor the Corps of Engineers maintains records about high insurance claims and defaults. Such information would be difficult to obtain from private insurance carriers and is beyond the scope of this report.

220. The project is oriented to a segment of market demand distributed through the Bay Area. About 2.3% of Bay Area households had incomes greater than \$50,000 in 1979. The project sponsor has submitted data showing that the project is in line with a number of other developments in the region. Vallejo would not need to subsidize the project, as it would pay for itself before it is fully completed. It is anticipated that the commercial development in the project would draw sales to Vallejo since the project would be annexed to the City and that project residents would shop primarily in Vallejo rather than in other communities. Boat value projections have been reduced to \$30,000 per boat.

221

IN SUPPORT OF CULLINAN RANCH PROJECT

1. Jack Anthony, III  
Anthony Enterprises
2. Vickie Ceradsky  
VIKI
3. Terry Cox  
Monson & Cox Architects, Inc.
4. Fred Davis  
First Interstate Bank
5. Robert Denison  
North Bay Associates
6. Bill Elliott, III  
Elliott Real Estate
7. James Hubbard  
Hubbard Business Services
8. Ray Lindsey  
Wells Fargo Bank  
(As Committee Member, will support)
9. Don Mitolo  
Crocker National Bank, Georgia Street Branch
10. Charles Rasmussen  
The Vallejo Center
11. Don Rizzo  
U.S. Post Office
12. Roger Warnock  
Vallejo Independent Press
13. R. Adm. Joe Rizza  
California Maritime Academy
14. Lou Rippa  
KNBA Radio
15. Charles Balassi  
Corcoran & Balassi
16. Al Newman  
ABC Marine
17. Jack Hussey  
Hussey's Moving & Storage
18. Walt Knipp  
Wiggins Funeral Home
19. Gordon Shaffer  
Vallejo Independent Press

MCE:nsa

VCC (7/83)

**LETTER # G-13**

221. Comment noted.



C1

SAN FRANCISCO BAY CHAPTER  
**OCEANIC SOCIETY**

BLDG. 315, FORT MASON · SAN FRANCISCO, CA 94123 · PHONE (415) 441-5970

City of Vallejo Planning Commission  
City Hall  
555 Santa Clara Street  
Vallejo, California

July 6, 1983

Dear Commissioners;

The Oceanic Society is a national organization dedicated to marine conservation, education, and the wise use of our ocean and estuary resources. The two thousand fishermen, recreational boaters, and naturalists who make up our northern California chapter have a vital stake in the protection of San Francisco Bay Area estuarine species and wetland habitats.

We do not believe it is in the interests of the citizens of Vallejo, Bay Area residents, or our membership to allow a large scale residential/commercial development on some of the last open space land adjacent to San Francisco Bay, especially next to a major continental wildlife area. This is additionally true of the Cullinan Ranch project which will be expensive in public services and will have at a minimum the unavoidable adverse impacts on the Vallejo area described in the Draft EIS/R.

If this Draft EIR/S were done thoroughly, it would present the larger context of the impacts and the seriousness of deciding to approve it so clearly that your commission would recommend dropping consideration of the project at this stage. There is precedent for such action: an EIS by the EPA on a sewage treatment plan for two coastal communities (Stinson Beach, Bolinas). The DEIS made it so clear that the project was totally inappropriate for its setting that the final report was never released, and the project was required to be withdrawn.

222  
As it is, the EIS/R illustrates unmitigatable impacts to agriculture and open space, and to local traffic conditions, which will only be worsened. These effects are impacts to both the local residents of Vallejo and to the Bay Area region as a whole. The traffic impacts will extend to the surrounding arteries, especially to Highway 101 as it adds a burden of commuters to San Francisco, Marin, and Sonoma. The North Bay is one of the

last remaining areas of agriculture and open space in the entire San Pablo - San Francisco Bay complex. To alter its character to the proposed extent, even with the "reduced" plan, is not only to drive agriculture further from urban centers, but to affect the regional character as a whole, further degrading air quality, water quality, and climatic conditions in the Bay Area, and setting a disastrous precedent.

223

We are convinced that resource protection through good planning and sound fiscal management usually go hand in hand. The Cullinan Ranch project, as proposed, carries some very serious financial burdens for both the County of Solano and the City of Vallejo, along with costly environmental threats. Thirteen million cubic yards of fill, moved by truck, will disrupt local traffic flow and commerce. Differential settlement of bay fill will create construction and maintenance burdens. Additional sewage treatment demand will be generated. There will be additional levee repair costs. Residential threats from seismic hazards will be increased. Regionally negative impacts will occur to adjacent public lands where there has been a substantial investment in resource protection, and there is likely to be damage to the economically valuable dungeness crabs and striped bass.

224

225

The EIS/R needs to expand its descriptions of unmitigatable impacts to considerations of regional traffic patterns and road capacities, cumulative water pollution effects, cumulative wildlife impacts, especially on the San Pablo Bay Wildlife Refuge, and it should present a clearer picture of the need and the real costs of the project.

226

There is no question that housing serves a public interest, and that the Bay Area's housing stock needs improvement. But unthinking growth which harms the quality of life of all present Bay Area residents, including the citizens of Vallejo, is not in the public interest. This is especially true in light of the facts pointed out in the EIR/S on p. 67 that there is "national recognition that wetland and shallow water habitats have such high ecological and social values as to consent to their destruction or degradations only where there is no question that public interest demands it" (this is not just the Fish and Wildlife Service's opinion, but is supported by the state and Federal coastal zone policy), and by the fact that that the FWS "has also identified the Napa Marsh as the number one priority for waterfowl wintering habitat preservation for the California coast, and the California coast is ranked sixth in the nation". It is questionable whether the housing stock this development will provide is the stock that is needed, and would be unquestionably in the public interest.

We do not doubt that Vallejo needs a more diversified job base, as stated by your City Manager at a recent hearing on oil development. We suggest that Vallejo should be proud of its marsh heritage and should provide a leadership role in the Bay Area by finding innovative ways to develop new jobs and industries that profit from the wetlands' renewable bounty. We urge you to set an example by drawing the boundary here, at the Cullinan Ranch, and by rezoning the land for marsh restoration and visitor interpretation, shellfish or mariculture development or research, agriculture or other appropriate uses.

Thank you very much for your attention.

Sincerely,



Dr. Ruthann Corwin  
Chair, Conservation Task Force

**LETTER # G-14**

222. All of these concerns are addressed in the Final EIR/EIS either in the text or responses to comments. Specifically: Traffic, Section III.H.; Water Pollution, Section III.C.; Wildlife, Section III.F.

223. Comment noted. Please see responses to comments 25 and 57 for corrected fill requirements.

224. Comment noted. See response to comments 51 and 52.

225. Comment noted. Potential impacts on the San Pablo Bay National Wildlife Refuge are discussed in the Final EIR/EIS (see response to comments 45, 46, and 48). The purpose and need for the project are described in Section I.A. of the Final EIR/EIS. The costs to the City of Vallejo are described in Section III.L. of the Final EIR/EIS.

226. Comment noted.

C1



# SAN FRANCISCO BAY CHAPTER SIERRA CLUB

6014 COLLEGE AVENUE / OAKLAND, CALIFORNIA 94618 / (415) 658-7470

July 3, 1983

Ms. CHRISTY HUDDLE  
Assistant Planning Director  
Vallejo Planning Dept  
555 Santa Clara St  
Vallejo, CA 94590

Ms. KAREN MASON  
Regulatory Action Officer  
U.S. Army Corps of Engineers  
San Francisco District

Mr. ROGER K. GOLDEN  
EIS Coordinator  
Technical Support Branch  
U.S. Army Corps of Engineers  
San Francisco District

re: Cullinan Ranch DEIR, May 1983

Dear Ms. Huddle, Ms. Mason, Mr. Golden,

The S. F. Bay Chapter of Sierra Club urges the City of Vallejo and the U.S. Army Corps of Engineers to adopt Alternative D, "No Project." The proposal as set forth in the DEIR has all the earmarks of a potential environmental, engineering, and fiscal disaster for the North Bay and the taxpayers of Vallejo.

227

228

229

The project area occupies a strategic location in the North Bay marshlands, which constitute the last major remaining marshland on San Francisco Bay proper and which is a very important waterfowl habitat. The cumulative effect of the development can be expected to severely impact the quality of the North Bay as waterfowl habitat, with adverse consequences for the waterfowl population of the entire Bay area. The siltation and other disturbance of water quality that could be expected from the project may adversely affect the North Bay fisheries. All of this will prove detrimental to sport hunters and fishermen, of whom a considerable number reside in Vallejo, and to businesses that cater to the needs of Bay outdoorsmen. There are numerous upland sites in the North Bay suitable for building, but there is little remaining wetland. Current policies of the Dept of Fish and Game, U.S. Fish and Wildlife Service, the Corps of Engineers, BCDC, and the State of California all recognize the importance of protecting the remaining Bay wetlands and marsh habitat. Placing such a project on the Cullinan Ranch site is directly contrary to this well-established policy. Sierra Club does not feel that the full impact of the effects of the development on waterfowl, fish, other wildlife, and the Bay ecosystem has been adequately addressed by the DEIR.



# SAN FRANCISCO BAY CHAPTER SIERRA CLUB

Cullinan Ranch pg 2

6014 COLLEGE AVENUE / OAKLAND, CALIFORNIA 94618 / (415) 658-7470

230

The soils analysis contained in the DEIR clearly shows that the area is not suitable for development. Groundwater levels vary from surface level to five feet. Large differential ground settlements of three feet are predicted in areas receiving ten feet of fill (which is most of the developed area). This means that foundations of buildings will tilt, crack, or break, underground sewers and waterpipes will tilt backwards, causing reverse flows, underground utilities, including pipes, can be expected to break or crack, buildings will crack, warp, or even break apart, and water can be expected to collect in areas that settle at a faster rate. Possibly areas will sink below high tide or flood zones; the example of Alviso comes to mind.

231

The DEIR finds that the dredged slopes of the lagoons, as proposed, will be of doubtful stability; which raises the specter of lateral soils movement, in addition to vertical compression, resulting in worse settlement problems.

232

These problems could be avoided only by installation of very expensive pilings and bulkheads, which the developer obviously cannot afford because no residential homebuyer would pay the cost. Another soils engineer who examined the data relied upon by the authors of the DEIR is of the opinion that the amount of settlement will be far worse than three feet differential. The EIR should include analyses by different soils engineers, and these analyses should be very critically examined because of the obvious potential for very serious problems.

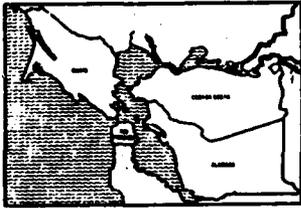
233

234

The project has been compared in the media to Foster City, Emeryville's Watergate, Alameda's Bay Farm Island, and other filled wetland developments in the central Bay Area that are widely (and erroneously) believed to be relatively stable. In fact, soils along the central Bay shoreline areas are far more stable than the muds underlying the proposed Cullinan development. The DEIR should certainly examine the experience of developments placed on Bay fill in other sites around the Bay; and should analyse the differences between the proposed Cullinan development soils and the soils underlying other filled areas.

235

The DEIR does not address the projected costs of the damage and cost of repairs that would be occasioned by soils settlement, nor the potential for litigation that will arise when damages begin to occur. Who will pay for the damage and repairs?? If the developer fails to repair damages due to soil settlement, who does?? It is very unlikely that the homeowners or homeowners association will be able to make more than marginal repairs. Will the City of Vallejo be expected to pay the cost of repairs?? A multitude of lawsuits can be expected as



**SAN FRANCISCO  
BAY CHAPTER  
SIERRA CLUB**

Cullinan Ranch

pg 3

6014 COLLEGE AVENUE / OAKLAND, CALIFORNIA 94618 / (415) 658-7470

236

dwellings, structures, streets, and utilities begin to sink, buckle, tile, warp, crack, or break. We can expect plaintiff-homeowners to sue the City to take measures to stabilize the soil or to repair or replace broken utility installations that are supposedly the developer's or homeowners' responsibility. The City will be expected to take measures to prevent flooding or accumulation of surface water due to settlement. Will Federal flood insurance or private insurance be available when needed??

The City could expect to be sued by desperate homeowners for permitting construction of the project on soils that are obviously unstable or questionable at best without adequate pilings and bulkheads. Courts, judges, and juries in recent years have significantly expanded the scope of municipal liability, and we can expect that trend to continue. The developer may be gone or insolvent by the time settlement damages become serious, but the City of Vallejo will remain the defendant with the "deep pocket" that cannot walk away from plaintiffs searching for a solvent defendant.

237

The cost of litigation would prove very burdensome to the City of Vallejo, which is a small municipality, and plaintiff judgments against the City could be enormous relative to the resources of the City. Whether the City would be protected by insurance against the costs of this litigation depends upon the willingness of the insurers to provide coverage. Before the City even considers approval of the project, it should make itself fully aware of the potential for litigation and municipal liability. This question is not addressed in the DEIR, but should certainly be of concern to taxpayers and elected officials.

The proposed Cullinan development will be a source of very expensive problems for the taxpayers and elected officials of the City of Vallejo, and should be rejected totally. There are other sites in or near Vallejo that are suitable for building of middle-income housing without the horrendous environmental, engineering, and fiscal problems of the Cullinan project. Cullinan will not relieve the Bay Area's middle-income housing shortage because most people will not be able to afford the luxury prices of Cullinan, and there is no shortage of luxury-priced housing in the Bay Area.

Additional concerns are very ably discussed in the letter of Mrs. Susan Smith, Chair of the Wetlands Coalition, dated May 23, 1983, to which the reader is respectfully referred.

Very Truly Yours,

James P. Daehl, for the S. F. Bay  
Chapter of Sierra Club

**LETTER # G-15**

227. Comment noted. See response to comments 45 and 48.

228. Comment noted. See response to comments 50, 51 and 52.

229. Comment noted. Additions have been made to the Vegetation and Wildlife section in the Final EIR/EIS, as a result of the completion of Harvey & Stanley Associates yearlong study on the biological resources of the Cullinan Ranch. Appendix IV.L includes the final report by Harvey & Stanley Associates (1983). See Pages 93-121 for a discussion of the potential impacts of the proposed development and possible mitigation measures. Also see response to comments 45, 46, 48, 50, 54, and 55.

230. Please see response 42 and 9.

With regard to the related concern for flooding, development will render the completed building areas safe from flooding. The buildings will be raised above the maximum anticipated flood elevations as required by the building ordinances. These design elevations are based on historical records and engineering studies, and include consideration of post-construction settlement.<sup>1</sup>

231. Please see responses 199 and 127.

232. Please see responses 199, 42 and 9.

233. Please see response 39.

234. There is no question that settlement and stability problems have occurred on other projects, as evidenced by some of the examples referred to in the EIR/EIS comments. These examples become the basis for improving the design/construction methods. There are also many good examples of well-engineered and constructed projects over deep deposits of bay mud which are performing quite satisfactorily; residential projects such as Bel Marin Keys and Spinnaker Point, and commercial projects such as India Basin, Benicia Industrial Park, and along Francisco Blvd. in San Rafael. The proper approach to geotechnical engineering is to be cautious and prudent without being overly conservative.

The geotechnical engineering concerns of settlement and slope stability for Cullinan Ranch can be adequately evaluated and safely mitigated by using the appropriate engineering designs and construction techniques.<sup>1</sup>

Bel Marin Keys Unit 4, a 159-unit residential project encompassing about 100 acres has been excavated to elevations as deep as 30 feet below original ground in creating lagoons, channels and peninsulas. The Bel Marin Keys property is similar to the Cullinan Ranch property in that it is on young bay muds, pumped for agricultural purposes and has saturated soils. Even though the soil is saturated it is very impervious to the passage of water. This characteristic makes it possible to keep excavations dry with little pumping. The Bel Marin Keys excavations were carried out with the use of large backhoes to excavate and trucks to haul the material to the fill areas. In this manner 1,300,000 cubic yards were excavated in the dry and placed in properly compacted fills.<sup>2</sup>

Both Bel Marin Keys and Cullinan Ranch lie along the northerly end of San Pablo Bay, both properties were diked off from tidal action many years ago and have been farmed since that time. In both cases, the elevations of the property are from -2 to -4 mean sea level and are drained by means of cross ditches from which water is pumped. Both properties are adjacent to permanent water areas. At Bel Marin Keys these water areas are Novato Creek and the existing lagoons. At the Cullinan Ranch, Dutchman Slough lies adjacent.

The underlying material in each of the properties consists of a 3 to 5 foot thick, relatively dry desiccated crust created by farming and drainage. Beneath this lies soft, compressible, clayey silt with peat lenses or pockets. The peat lenses or pockets are not continuous and generally occur near the surface. At Bel Marin Keys, ground water was 3 to 8 feet below the surface, and at Cullinan Ranch about 5 feet below the surface.

Even though the water table is near the surface, the low permeability of the soft, compressible, clayey silt allowed the excavations at Bel Marin Keys to be accomplished with backhoes and draglines, in the dry, with dewatering by means of pumping.

The peat lenses are not continuous and therefore do not provide a path for subsurface water. In the event a peat lense is encountered near Dutchman Slough which allows water to flow into the excavation, it can be cut off by excavating a trench between the excavation and the slough and filling it with impermeable silty clay from the site.

There were a few instances of minor, localized slope failures at Bel Marin Keys during grading. These were repaired by removal and recompaction of failed material, flattening slopes, adding benches to the grading, replacing fill with lightweight material or a combination of these procedures as appropriate. After the excavation was completed and the lagoons were filled, there have been no slope failures.<sup>3</sup>

At Cullinan Ranch, pipes, tanks, pump stations, etc. would be thoroughly analyzed at the time of design, in order to avoid creation of differential settlement, through uniform loading of underlying material, proper foundation design and flexible piping connections.

Concerning the relationship of proposed elevations with respect to settlement and the required minimum floor elevation, the following tabulation shows various elevations on Navigable Depth (Mean Sea Level) and Vallejo Datum.

	Vallejo Datum Elevation	NGVD (M.S.L.) Elevation
Finished Floor	+1.50	+9.00
	0.00	+7.50
	-7.50	0.00
MLLW	-10.11	-2.61
MHHW	-4.6	+2.90
Maximum Tide	-1.0	+6.50

The finished floors would be constructed at elevations which provide for the settlement which would take place after construction. The project sponsor's civil engineering consultant has estimated that the floors would be initially constructed at an elevation of +12.5 NGVD (M.S.L.) or elevation +5.0 Vallejo Datum.

Accommodation of ground settlement would be provided for in design of sanitary sewer and storm drainage facilities both with respect to total and differential settlement. These systems would be designed with extra gradient where settlements will produce flatter gradients and the systems will be constructed using jointing and pipe materials which will accommodate these settlements.<sup>2</sup>

235. Please see response 1.

236. Cullinan Ranch is within Zone A on the Solano County Flood Hazard Boundary Map. As such, homes on the site would be eligible for flood insurance at the same rate as the rest of the County once their floor elevations were established as being above the 100-year flood level. With annexation to the City of Vallejo, the lowest floor level would have to be 1.5 feet above the 100-year flood plane to conform with the flood ordinance.<sup>4</sup>

237. Both the city of Vallejo and the Corps of Engineers agree that the costs of litigation is of concern to the taxpayers and elected officials. However such costs are speculative and extraordinary and are not required to be included in an EIR/EIS. Generally the fiscal analysis in an EIR/EIS only looks at predictable capital and operating expenses that would result from a proposed project. The City of Vallejo is aware of the potential for litigation but has no way of predicting whether such litigation will occur, who will bring it or how much a lawsuit would cost to defend.

---

<sup>1</sup>Dennis H. Furby, CE 24480, Harding Lawson Associates, letter to W. R. Williams, Inc., August 26, 1983.

<sup>2</sup>L. E. Oberkamper, Oberkamper and Associates, Civil Engineers, Inc., letter to W. R. Williams, Inc., October 28, 1983.

<sup>3</sup>L. E. Oberkamper, Oberkamper and Associates, Civil Engineers, Inc., letter to W. R. Williams, Inc., August 25, 1983.

<sup>4</sup>Ron Besseman, National Flood Insurance Program, and Tim Ko, City of Vallejo Public Works, telephone communications with EIP Corporation, January 18, 1984.



# Golden Gate Audubon Society

A BRANCH OF THE NATIONAL AUDUBON SOCIETY

June 10, 1983

Ann Meredith  
Planning Dept.  
P.O. Box 3068  
Vallejo, Ca. 94590

Dear Ms. Meredith;

The Golden Gate Audubon Society is deeply concerned about the effects of the proposed Cullinan Ranch Development on wildlife habitat in the North Bay. This area on the north shore of San Pablo Bay represents the last large open space for agriculture and wildlife habitat in the San Francisco Bay Area.

California's wetlands are disappearing rapidly under the pressures of development. In the Bay Area there are now only 59 square miles of marshes and wetlands remaining of the 313 square miles that existed at the beginning of the century. Development of the Cullinan Ranch would affect more than the immediate site. The Napa and Petaluma marshes, important wintering grounds for waterfowl on the Pacific Flyway, would be cut off from the Bay. Considering the estimated 13,500 people the new community would hold, the proposed mitigation projects included in the Ranch Development Plan would do little towards restoring what was lost.

Of equal concern are the dangers of construction on this area of soft bay mud, which would prove unstable in an earthquake. Further problems include the greatly increased traffic which would flood already crowded Highway 37, and the financial burden on the urban services of Vallejo.

We urge you not to approve this development, a project which raises more problems than it solves.

Sincerely yours,

Ruth S. Vose  
Conservation Committee

x C12

238

239  
240  
241

**LETTER # G-16**

238. Comment noted. See response to comments 48 and 135.

239. Please see response 9.

240. See response 10.

241. Comment noted.

X  
C2



# THE CALIFORNIA NATIVE PLANT SOCIETY

DEDICATED TO THE PRESERVATION OF CALIFORNIA NATIVE FLORA

4325 Mountain View Avenue  
Oakland, CA 94605  
15 June, 1983

Ms. Christy Huddle  
Vallejo Planning Dept.  
555 Santa Clara St.  
Vallejo, CA 94590

Dear Ms Huddle:

The San Francisco Bay Chapter of the California Native Plant Society is concerned about the impacts of the proposed Cullinan Ranch Development project. Our review of the Draft EIR/EIS, coupled with site familiarity on the part of one member, leads us to urge selection and support for Alternative D, the no project alternative.

Already 80% of our Bay marshes have been destroyed. This is a restorable marshland and currently is supporting rare and endangered plants, birds, and mammals. With contemplated restoration work the future of these species can be much more secure.

Guidelines for San Francisco Bay Management would preclude any of the proposed development alternatives. When agricultural uses cease, the only conforming alternative is returning the site to tidal saltmarsh.

Again, we urge selection of Alternative D for the protection of these wetlands.

Sincerely yours,

*Marian E. Reeve*

Marian E. Reeve, President  
San Francisco Bay Chapter

242

**LETTER # G-17**

242. Comment noted. See Appendix IV.L (Pages 94-101) for a discussion of the potential impacts of the proposed project on rare and endangered species. Also see response to comment 120.

# MADRONE AUDUBON SOCIETY, INC.

POST OFFICE  
BOX 1911



SANTA ROSA  
CALIFORNIA 95402

Ann Merideth  
Planning Department  
PO Box 3068  
Vallejo, CA, 94950

Dear Ms. Merideth,

I have been asked by our Board to make comments on the Cullinan Ranch Draft Environmental Impact Report/Statement on behalf of the Madrone Audubon Society. We are the Sonoma County chapter of the National Audubon Society, and represent some 1300 memberships in this county. Our interests in the Cullinan Ranch stem from concerns for the wildlife in the area. As proposed, we believe the project would have serious, if not irreparable impacts on the wildlife in the region. This is verified by the material presented in the DEIR/S (p.62 - 75).

**243** We believe, with some exceptions, that the DEIR/S is a fair presentation of information. With certain additions and modifications, it may be acceptable. Information surprisingly absent from the the report is any reference to the San Pablo Bay Wildlife Refuge, and potential effects of this project on the Refuge as a result of constructing the project. It is difficult to imagine that there would not be significant impacts on this important part of the Pacific Flyway. This lack is a serious oversight, and requires an addition to the document. **243**

**244** As to the mitigations suggested, we note that none of them would be required if the project were not built. As in other sections of the Report, this should be explicitly stated. If the project is to be built, we strongly urge that a full Habitat Evaluation Procedure be implemented, as suggested therein (p.74). We have previously written the State Lands Commission suggesting that the full impact of the project could only be evaluated if substantial information about the wildlife now in the area were monitored for 1-2 years. **244**

**245** We do not believe that anything presented in the DEIR/S suggests that the impacts on the wildlife can be satisfactorily mitigated on site. If the project were to be built, we favor mitigation alternatives mentioned, b and c (p. 74) which would require direct fund contributions from the developer towards off-site mitigations. **245**

**246** We feel it is important therefore, to comment on some of the financial aspects of the project (p.126-43), as we do not see evidence that the developer has the financial support and backing to procede with the project as outlined. They indicate that the city of Vallejo would, in effect be supplying the developer with financial backing for many years (possibly 12-15?). Under these circumstances, is it reasonable to expect that he could or would have funds available for mitigation purposes? Not likely. **246**

# MADRONE AUDUBON SOCIETY, INC.

POST OFFICE  
BOX 1911



SANTA ROSA  
CALIFORNIA 95402

247

Another item which suggests that the developer may not have the ability to follow through on any of the mitigation measures is the discussion on p. 132 of the costs of city-provided services. There are three estimates of these costs: (1) those developed in conjunction with responsible department heads, (2) those based upon current per capita experience (which were higher than (1)), and (3) "revised cost estimates prepared by responsible department heads". Which is to be believed? If the lower estimates are to be used in the DEIR/S, does that not imply that the service level being contemplated for this project is to be lower than in the rest of the city? It is to be hoped that the Planning Department, Planning Commission and City Council will develop estimates for these costs that they and the public can rely upon, especially if they intend to go into the development business.

247

248

The Report indicates in several ways, and explicitly, that the alternate projects B and C, are unimportant as regards changing the impacts of the project. In this situation, one could legitimately ask whether they are, under the law, to be regarded as alternatives? If not, the DEIR/S may need substantial revision before it can be accepted.

248

249

The fiscal impacts of this project are not adequately addressed, even in the revised estimates made by the writers of the DEIR/S. While mentioning the costs of the project that relate to wastewater treatment, park financing, schools, fire protection, etc. (p. 141-42), these items are omitted from the overall figures shown in table III-20. They will all add substantially to the costs that the city of Vallejo will be expected to "front", and could have been estimated for the purpose of writing this report. This substantial inadequacy is another reason that the report needs revision.

249

We suggest that this project is an environmentally damaging proposal. While the DEIR/S may be brought up to an acceptable standard, it is unlikely that the project itself can be.

Sincerely,

*George E. Ellman*  
George Ellman, Chair  
Conservation Committee

**LETTER # G-18**

243. Comment noted. See response to comments 45 and 48.

244. Comment noted. An addition has been made in the Vegetation and Wildlife section stating that no mitigation would be required if the project were not built. A one-year study of the biological resources of the Cullinan Ranch conducted by Harvey & Stanley Associates is included in the Final EIR/EIS (see Appendix IV.L). This is the only long-term study that has been conducted at the Cullinan Ranch.

245. Comment noted.

246. The economic/fiscal analysis does not suggest that the City of Vallejo would be providing the project sponsor with "financial backing" but rather that the balance between general government costs and revenues generated by the project would be positive in all phases of Alternative A.

247. The fact that the service costs for Cullinan are lower than the city average does not necessarily imply the service level will be less, but rather that some capacity exists in the current service delivery system.

248. New alternative E is a reduced project alternative. See the alternative discussion in the Final EIR/EIS beginning on page 10 and response to comment 103.

249. Public service costs have in fact been included in Table III-20. The remaining costs mentioned in the comment involve special districts and not the City of Vallejo. The specific responsibility for costs of these services requires further negotiation between the developer and the respective providers.

CI



SOL FRIEDMAN  
ENGINEER-MANAGER

# VALLEJO SANITATION AND FLOOD CONTROL DISTRICT

450 RYDER STREET  
VALLEJO, CALIFORNIA 94590

AREA CODE 707  
TELEPHONE: 644-8848

## BOARD OF TRUSTEES

FRED K. SIBLEY  
PRESIDENT

OSBY DAVIS  
VICE PRESIDENT

JOHN F. CUNNINGHAM  
SECRETARY

ROBERT E. KEITH  
TRUSTEE

GRANT L. TEICHEIRA  
TRUSTEE

July 6, 1983

Planning Department  
City of Vallejo  
555 Santa Clara Street  
Vallejo, CA 94590

Attention: Ann Merideth

### CULLINAN RANCH DRAFT EIR/EIS

The District has reviewed the Cullinan Ranch Draft EIR/EIS and has the following comments.

250

250a

250b

On Page 36, Paragraph 4, Sentence 1 is "10-year storm" and this should be a "100-year storm." On Page 36 under "Flooding," the report states that, "The proposed finished minimum floor elevations (10.4 feet MSL) are well above the maximum predicted flood elevations (7.4 feet MSL) so flooding due to both tidal inundation and flooding of the Napa River should not be a problem in the development." Do these proposed elevations provide allowance for settlement? Finished floors should be at or above +1.5 on the Vallejo Datum after settlement. The report should indicate the City of Vallejo Datum elevations that correspond to the MSL elevations.

250c

250d

On Page 116 the report states that, "While no engineering problem exists with installing the required sewer lines for Alternatives A, B, and C across the Napa River, from an administrative point of view, the California Department of Transportation staff has indicated a reluctance to installing the pipe on the Napa River Bridge, however, the VSFCDD has no reservations about installing the pipe underground." After further consideration, VSFCDD feels that this force main should be installed on the Napa River Bridge.

July 6, 1983

Subject: Cullinan Ranch Draft EIR/EIS

251

In reference to the capacity of the existing treatment plant for Alternatives A & B, early studies by J. M. Montgomery Engineers indicated some capacity for initial project, but would require additional capacity for build out.

252a

In addition, the District has the following comments.

252b

1. Ground settlement can have an adverse effect on gravity flow sanitary sewers and storm drains. For this reason, the environmental document should address in detail the unstable earth conditions of this project and the mitigation measures needed for storm drain and sanitary sewer systems. Elevations in the environmental document should also be shown as Vallejo Datum elevations.
2. Sanitary sewers should not be more than ten (10) feet deep.
3. Sanitary slopes flatter than 0.6% are allowed if the minimum design velocity will be at least two and one-half ( $2\frac{1}{2}$ ) feet per second for the anticipated flow.
4. Sanitary sewers should be straight between structures in most cases.
5. The VSFCO peak factor of 1.5 for sanitary sewer design flows is for a very large area. For small areas tributary to pump stations, higher peak factors should be used.
6. Where a blocked catch basin or storm drain could result in flow across private property, (a) there should be a swale over the storm drain or another alternate drainage path or (b) the area should be capable of storing a 100 year storm without water reaching the building pads.
7. Storm drains should be designed to discharge against a tide elevation of -2.2 on the Vallejo Datum.

Planning Department

Page 3

July 6, 1983

Subject: Cullinan Ranch Draft EIR/EIS

8. The minimum diameter for public storm drains is twelve (12) inches.
9. The District and the developer would share the cost of a new trunk sanitary sewer along Wilson Avenue from Tennessee Street to Sears Point Road based on the expected use of its capacity.
10. Storm drain outfall inverts should be above the surrounding tidal area to allow storm water to drain away freely and prevent silting up of the pipes. This condition should exist after any anticipated settlements.
11. All storm and sanitary sewer designs should consider anticipated settlements.
12. All pump stations should have a wet well and a dry well.
13. For a 100 year storm discharging against a tide elevation of -2.2 on the Vallejo Datum, the water surface should not be above the top of curb at any catch basin.
14. If storm water will be stored in a lagoon system during periods of high tide, then the following conditions should be provided:
  - a. The lagoon should be capable of storing a 100 year storm of the duration of the storage period.
  - b. The 100 year storage volume should be above the highest normal operating level of the lagoon.
  - c. The lagoon water surface should return to the normal operating range during the first low tide following a storm.

Planning Department

Page 4

July 6, 1983

Subject: Cullinan Ranch Draft EIR/EIS

15. Where there is less than three (3) feet of cover on pipelines, higher pipe strengths may be used instead of concrete encasement. This applies to sanitary sewer laterals as well as sewer mains and storm drains which are in traffic areas.
16. Easements along a property line should be on one of the properties so that maintenance work would not require removal of a property line fence.

VALLEJO SANITATION AND FLOOD CONTROL DISTRICT



SOL FRIEDMAN  
Engineer-Manager

DLM/clm

**LETTER #C-1**

250a. Text change on page 36, new paragraph 7, sentence 1, "10 year storm" now reads "100-year storm."

250b. Please see response 234 (paragraphs 9 through 11) for information on finished floor levels and settlement.

250c. Please see response 234 (paragraph 9) for a table comparing Vallejo City Datum to Mean Sea Level Datum.

250d. Text change on page 116, paragraph 6, should read as follows:

"While no engineering problem exists with installing the required sewer lines for Alternatives A, B, C and E across the Napa River, from an administrative point of view, the California Department of Transportation staff opposes installing the pipe on the Napa River Bridge. However, the VSFCDD has reservations about installing the pipe underground and believes the force main should be installed on the bridge."<sup>1</sup>

251. Text change on page 116, paragraph 9, sentence 1, now reads as follows:

"According to Sol Friedman, Engineer-Manager of VSFCDD, sewer plant capacity over and above prior commitments, including Glen Cove and the Northeast Quadrant, is anticipated to be sufficient for initial construction of Alternatives A, B, and E, but would require additional capacity for build-out."<sup>1</sup>

252a. Please see response 42 (paragraph 3) and response 234 (paragraphs 9 and 10).

252b. Items 1-16 are the Sanitation and Flood Control District requirements to ensure proper system operations on this site. The project sponsor's civil engineering consultant would work with the District to design sanitary sewers and storm drains which meet the District's specifications. It would be the responsibility of the developer to see that close contact with the District is maintained during the design and construction stages of each Phase of the project.

---

<sup>1</sup>Sol Friedman, Engineer-Manager, Vallejo Sanitation and Flood Control District, letter to Planning Department, City of Vallejo, July 6, 1983.



(707) 642-7556

395 AMADOR STREET • VALLEJO, CA 94590

Richard T. Conzelmann  
ADMINISTRATOR

June 28, 1983

Ms. Ann Meredith  
Associate Planner  
Planning Department  
City of Vallejo  
P. O. Box 3068  
Vallejo, CA 94590

Re: Cullinan Ranch Draft Environmental  
Impact Report and Statement

Dear Ms. Meredith:

Thank you for the opportunity to comment on the above project.

Alternatives A and B as proposed by Pan Pacific and Redwood Realty:

The proposed development would result in considerable increase in the demand for recreational facilities in the vicinity of the site.

253a The District's staff's concerns remain the same, while staff recognizes that locating neighborhood and community parks adjacent to schools maximizes recreational opportunities while at the same time minimizing land area required. The District is concerned that the park/school sites in the proposed alternates are located in areas considered to have the highest noise levels and largest volumes of traffic. Staff is also concerned with the location of the school/park sites in relationship to the main flight plan of the Napa airport. In the interest of public safety, we recommend this matter be mitigated.

253b The District recognizes the possibility exists with this development to provide more public access to sensitive areas (the Napa

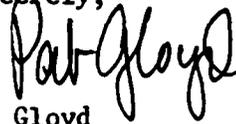
Ms. Ann Meredith  
June 28, 1983  
Page 2

marsh/restoration/wildlife habitat areas). From past experience, we would recommend motorcycles and motorized vehicles be discouraged from the use of these areas through mitigation and by entrance design.

It is our understanding that the proposed bicycle trail, marina park and view parks will be in a maintenance district.

If you have any questions, please contact me.

Sincerely,



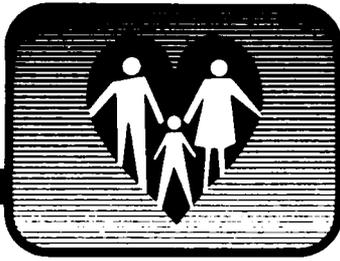
Pat Gloyd  
Park Planner

/gs

**LETTER #C-2**

**253a.** The proposed junior high school site will be relocated westerly of the community park site so as to remove school facilities from the flight path of the Napa County Airport ILS outer marker.

**253b.** Comment noted. The impacts from motorcycles and other motorized vehicles can be discouraged by restricting access to pedestrians and bicycles. Such restrictions could be enforced by the entity created to maintain the levees (re assessment district, see response to comment 1), or by a homeowners association. Also, prospective residents should be put on notice through CC & R's that access to levee areas is limited.



VALLEJO CITY UNIFIED SCHOOL DISTRICT

June 22, 1983

Ms. Ann Merideth  
Planning Department  
P.O. Box 3068  
Vallejo, CA 94590

Neil L. Pennington, President  
Gina Snyder, Vice President  
Jesse M. Bethel  
Gail Brewer  
Elizabeth Burleigh  
B. Phillip Bowman, Ed. D.  
Superintendent of Schools  
Secretary, Governing Board

Dear Ms. Merideth:

The purpose of this letter is to provide you with the Vallejo City Unified School District's comments relative to the Cullinan Ranch Environmental Impact Report/Environmental Impact Statement as prepared by Torrey and Torrey, Inc., May, 1983.

The district would like to emphasize that existing school facilities are at or above capacity. We are currently providing classes for children in elementary school auditoriums, multi-purpose rooms, and other spaces that were never intended to be used as classrooms.

In order to accommodate the increasing number of students generated by new developments in our area, the district has reviewed attendance boundaries, changed elementary schools from the traditional to year-round school calendars, and taken other steps to mitigate the impact of the increased number of students.

The existing elementary and junior high schools in the Cullinan Ranch area are at or above state-rated capacity. The district does not recognize the continued expansion of these campuses as a preferred alternative means to house students coming from this development.

254 Both of the district's comprehensive senior high schools are at or near capacity. In order to expand the existing senior high school sites to accommodate students from the Cullinan Ranch Development and those from the proposed developments in the North-east Quadrant and Glen Cove areas, the district would need to add approximately 48 classrooms or relocatables to these sites. Neither of the existing senior high school sites could integrate the needed number of relocatable classrooms.

When addressing the subject of how the construction of these proposed new schools will be paid for, it is indeed a true and correct statement to say, "Funding for construction has not yet been identified."

Torrey and Torrey report the possibility that the state-wide school bond issue (Proposition 1), which was passed by the voters in November of 1982, could conceivably provide monies to the district on a competitive basis for the construction of the proposed schools. Proposition 1 authorized \$350,000,000 to be used for building new

Ms. Ann Merideth  
6/22/83 - page 2

schools and \$150,000,000 for the rehabilitation of older school buildings. Prior to the passage of Proposition 1, the district was informed by the Department of School House Planning that currently on file with the State were applications in excess of the \$350,000,000 allocation.

Prior to the development of Cullinan Ranch it will be necessary for the developer and the school district to arrive at an agreement as to how the proposed schools are to be funded.

The school district cannot think of the Cullinan Ranch Project in isolation. We must consider the impact of this development, along with all others that are being proposed in Vallejo. For this reason, and for your information, I have attached our 1982-83 Building Program Report. In this report it outlines not only the impact that Cullinan Ranch will have, but provides data on the district's overall needs for classroom space caused by new home construction throughout the city. Please consider this report and the information contained therein to be part of the Vallejo City Unified School District's comments.

The school district stands ready to enter into open discussion with other concerned parties on how to best meet the school facility needs of the children from the proposed Cullinan Ranch Development.

Sincerely,



M. Dale Welsh  
Administrator for Support Services

MDW:mgr

Enclosure

Vallejo City Unified School District

MEMORANDUM

To: Members of the Governing Board  
 From: B. Phillip Bowman, Superintendent  
 Date: December 1, 1982

Subj: Building Program

The purpose of this memo is to provide you information regarding the district's needs for additional classroom space. The question as to how many additional schools and portable classrooms the district will need, of course, depends on how many students there will be in our district when all available land within the limits of the school district boundaries has houses on it. Therefore, as the first step, it is necessary to determine how many students there will be enrolled in the Vallejo City Unified School District when the City of Vallejo is "built-out."

The first step in determining the projected number of students is to establish the total number of new homes that are proposed to be built. Information regarding the housing developments in Vallejo has come from the staff of the City Planning Department, the Subdivision Activity List, the Specific Area Plans and the work completed by my staff. The data collected on this topic is summarized in the table below. The first line of this table shows the total of 16,800 homes forecast to be built in the six areas. The lines below this one indicate the number of students that are estimated to come to the district from these new homes. These numbers represent conservative estimates of what the projected enrollments will be for each category of student in the various areas. For example, elementary students are calculated at .40 students per home, which is .05 less than what we have used in projecting enrollment prior to this time.

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>Other</u>	<u>C</u>	<u>Total</u>	
Housing Units	1,400	1,100	3,200	2,200	3,300	1,100	4,500	16,800	
Occupied 11-1-82	529	927	100	492	150	630	0	2,828	
To be Completed	871	173	3,100	1,708	3,150	470	4,500	13,972	
Elementary	.4	348	69	1,240	683	1,260	188	1,398	5,186
Junior High Sch.	.15	131	26	465	256	473	71	675	2,097
Senior High Sch.	.1	87	17	310	171	315	47	630	1,577
	.65								

Numbers 1-5 in the table correspond to the five SAP (Specific Area Plans). SAP 3 figures have been revised from the previous reports to reflect the new master plan of the Lundeberg Properties. Column C is the Cullinan Ranch property west of Mare Island. The figures in that column come from their Specific Plan.

The table below summarizes the steps taken to reach an estimate of the number of classrooms needed when the City of Vallejo is "built-out." The October, 1982 column indicates the actual enrollment on that date. The "Base" column is the estimated number of students that will continue to reside in Vallejo during the projected ten-year build-out period. Added to that figure, and appearing in the column with the heading "New," is the number of students that will reside in the new homes built during the next ten years in Vallejo.

The next three columns show the projected number of students at "build-out," the capacity of the school district's facilities at present, and the number of students whose school housing needs will not be met.

	<u>Actual Enrollment</u> 10-82	<u>Base</u>	<u>New</u>	<u>Total Students</u> <u>at Build-Out</u>	<u>Plant</u> <u>Capacity</u>	<u>Student Needs</u> <u>for Housing</u>
Elementary	7,800	6,100	5,200	11,300	7,800	3,500
Junior High	3,350	2,500	2,100	4,600	2,900	1,700
Senior High	2,945	2,400	1,600	<u>4,000</u>	<u>2,800</u>	<u>1,200</u>
TOTAL				19,900	13,500	6,400

The cost of housing these students, estimated in the table below to be \$35,640,000, includes the cost of moving portables in the older parts of town to the areas of the city that are increasing in population. The miscellaneous category includes such items as street, curb and sidewalk costs.

Elementary

4 Elementary Schools at 600 Students at \$3,700,000	\$14,800,000
37 Relocatables at \$60,000 (3,500 - 2,400 students ÷ 30)	2,220,000

Junior High School

2 Junior High School for 800 Students at \$7,000,000	14,000,000
4 Relocatables (1,700 - 1,600 ÷ 25)	240,000

High School

48 Relocatables for Senior High Schools at \$60,000 (1,200 students ÷ 25)	2,880,000
---	-----------

Miscellaneous

Moving Relocatables and Miscellaneous	<u>1,500,000</u>
---------------------------------------	------------------

TOTAL	\$35,640,000
-------	--------------

Impact Fees Collected to Date	<u>2,400,000</u>
-------------------------------	------------------

\$33,240,000

Average Fee from the 14,000 Homes to be Built	\$ 2,375
---	----------

The impact fee currently being collected by the city ranges from \$450 to \$1,950 for single family homes. The fee for multiple family units ranges from zero to \$850. The ordinance which required the collection of the fees will expire December 31 unless extended by the City Council.

To state the obvious, predicting the future is hazardous. In this case we are projecting to the year 2000 and beyond. One must always bear in mind that these projections almost certainly will change on an annual basis.

I believe that the projections are actually conservative and am certain that more schools will actually be required. The principal reasons for this belief are as follows:

- No. 1 - For the last few years it has been frequently reported that the birth rate is increasing. Further evidence that this is true occurred this year when the number of kindergarten children enrolled was almost ten percent more than the previous year. If this trend continues, all the enrollment figures will be revised upward.
- No. 2 - The plans to build one elementary school in Glen Cove are most conservative since present plans indicate that there will be 1,260 additional elementary students living in that area. The Glen Cove School is planned to be built with space for 600 students and with space to install relocatables to bring the capacity to 840. By making that school a year-round school, the capacity could be increased to 1,060, still below presently projected enrollment.

As you will note in the table, there are projected to be 1,240 more elementary students in SAP 3 which is the Northeast Quadrant. Plans similar to that in the Glen Cove area would be used here.

The Cullinan Ranch Specific Plans include sites for two elementary schools and one junior high.

- No. 3 - The idea of purchasing 48 relocatables for use at the senior high schools is quite likely impractical. There is no space for relocatables at Hogan unless more land is purchased. There is certainly not enough space at Vallejo Senior for 48 relocatables. The projected need for 1,200 seats at the senior high school level actually represents another high school the size of Hogan. Such a building would cost well over \$10 million dollars.
- No. 4 - Several of the buildings in the district are quite old and will require extensive improvements by the year 2000. These include the main buildings at Franklin Junior High and the Science Building and the shops at Vallejo Senior High. No cost figures for these and the other older buildings have been compiled.

The attached chart shows the capacity of each building and the enrollment at each building for the last four years. Current year enrollment figures at each of the three levels indicates that the district is already above capacity. How can this be? Capacity figures are a reasonable maximum which is determined by using state figures. Space for more students can usually be found by using space for purposes other than those for which they were originally designed. For example, there are three classes in the auditorium at Lincoln. There are a total of 12 spaces being used at Vallejo Senior High, including classes in the cafeteria and library. In the junior high schools, band rooms, shop rooms, and home ec rooms are often used for academic classes.

It is imperative that we have some relocatables in place by next September, particularly at Solano Junior High. We are now in the process of planning the exact number needed and the locations for those relocatables.

In the election that was held last November, Proposition 1 was passed. This proposition authorized the state to issue bonds to raise \$500 million dollars to be used for building new schools and rehabilitating older buildings. \$350 million dollars of that amount was to be spent for new schools. The state already has applications for new schools totalling \$380 million dollars.

To: Members of the Governing Board  
Subj: Building Program

December 1, 1982

Page 4

There are no rules and regulations determining how the money for rehabilitating buildings will be awarded. We will keep a careful watch and apply for funds as the regulations allow.

In summary, the funds from Prop 1 appear to be of no use to us for new buildings and we do not know at this time whether they will be helpful in rehabilitation work.

BPB:dg

Building Program

TABLE OF ENROLLMENTS

School	Actual Student Capacity <sup>a</sup>	Actual Enrollments			
		1979-80	1980-81	1981-82	1982-83
Beverly Hills	392	348	356	353	352
Cave	561 <sup>b</sup>	522	476	480	500
Cooper	655	602	582	600	632
Davidson	358	218	227	226	228
Farragut	301	290	283	272	285
Federal Terrace	509	432	435	519	500
Highland	568	582	568	569	589
Lincoln	178	319	309	316	290
Loma Vista	339	469	559	581	622
Mare Island	536	499	468	471	490
Mini	856 <sup>b</sup>	917	902	883	890
Patterson	571	545	519	523	545
Pennycook	894 <sup>b</sup>	880	834	839	820
Steffan Manor	540	540	647	646	665
Widenmann	<u>513</u>	<u>411</u>	<u>476</u>	<u>462</u>	<u>447</u>
TOTALS	7,771	7,630	7,625	7,740	7,855
Franklin	622	696	721	713	726
Solano	774	788	849	857	948
Springstowne	752	782	778	793	821
Vallejo Junior	<u>709</u>	<u>837</u>	<u>825</u>	<u>835</u>	<u>857</u>
TOTALS	2,857	3,129	3,200	3,198	3,352
Hogan	1,278	1,203	1,154	1,124	1,138
Peoples	200	225	228	189	239
Vallejo Senior	<u>1,332</u>	<u>1,575</u>	<u>1,563</u>	<u>1,523</u>	<u>1,552</u>
TOTALS	2,810	3,003	2,945	2,836	2,929

a: Student capacity has been certified by the state and does not include the space for such special programs as special education and child development.

b: Year-round school capacity

**LETTER #C-3**

254. Comments noted.

X  
C1

OFFICE OF THE WATER SUPERINTENDENT  
City Hall  
Vallejo, California

25 May 1983

SUBJECT: Cullinan Ranch EIR/EIS  
TO: Hal Boex, Business Development and Planning Director  
THRU: Glenn Harris, Director of Public Works *GHH*

Water Department concerns on the above development are mainly focused on the following:

1. The off site transmission main.
2. The ground stability with respect to the distribution pipes and structures.
3. A backup to these in case of failure.

255

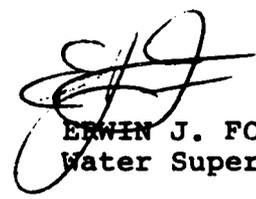
I think I would be reluctant to recommend City responsibility for maintaining an underwater conduit to the site. A conduit structure attached to the most accessible part of the Napa River bridge seems possible and much more desirable.

256a

Differential settlement of pipes, tanks, pump stations, etc. must be prevented. The poor subsurface material will probable require spread footings and engineered backfill to maintain them in place.

256b

In the event the transmission line becomes dysfunctional, some alternative water supply must be guaranteed in an extreme emergency; something beyond the site storage tanks. The developer should construct a link to the Navy Yard water system for this purpose. There would be a mutual Navy Yard and project benefit.



ERWIN J. FOLLAND  
Water Superintendent

jf

**LETTER #C-4**

255. Comment noted.

256a. Please see responses 234 and 42.

256b. The city of Vallejo and the developer will be discussing the water supply issue with the Mare Island Naval Base, however, such discussions have not yet commenced.

PLANNING DEPARTMENT

C1

PLANNING COMMISSION  
JERRY SULLIVAN - CHAIRMAN  
RICHARD LANZA - VICE-CHAIRMAN  
RALPH MOSS  
STANLEY ANDERSON  
WILLIAM COURTLAND  
DONNA LENZI  
JAN STEWART  
PHILIP KAY  
DORCE (DAN) DANIELS



CLAYNE E. MUNK  
PLANNING DIRECTOR  
  
COURTHOUSE  
580 TEXAS STREET  
FAIRFIELD, CALIFORNIA 94533-6376  
PHONE (707) 429-6561

June 30, 1983

Ann Merideth  
Planning Department  
P. O. Box 3068  
Vallejo, CA 94590

Dear Ms. Merideth:

Re: Cullinan Ranch Draft EIR/EIS

Thank you for the opportunity to review the Cullinan Ranch Draft EIR/EIS. We would like to make the following comments on the Draft EIR/EIS and project.

1. ISSUES

The Draft EIR/EIS identifies 14 issues raised by the project, many of which were identified as controversial and having significant adverse effects associated with them. Fully half of these issues are still under investigation and will require further review as additional data becomes available. These unresolved issues are key to the projects viability. While several of these issues, are institutional in nature, others may have significant environmental consequences and their resolution should be incorporated into the Environmental Review process. Of particular importance are geologic and seismicity and vegetation and wildlife issues.

257

Geology and Seismicity - The Geologic character of the site could result in significant impacts upon the project. The Draft EIR/EIS points out the differential settlement impacts which are likely to occur from a number of potential sources which will affect the design and performance of utilities, structural foundations and streets. A number of mitigation measures are suggested to minimize "somewhat" the identified adverse impacts. Many of the measures proposed are very expensive and may not significantly minimize the impacts to an acceptable level dependent on more detailed soil investigation. Differential settlement over time can result in substantial property damage and repair of public facilities and structures can be extremely costly. The Draft EIR/EIS recommends further study in this area in order to

258 determine the potential impacts on the project. The potential of liquefaction is also a concern. While preliminary investigations indicate the sandy seams found in the Bay mud which are subject to liquefaction are not continuous or extensive, the Draft EIR/EIS recognizes that further investigation is required to verify this finding. The Solano County Health and Safety Element recognizes this area as having a high potential for liquefaction.

259 Vegetation and Wildlife - The Cullinan Ranch proposal is located in a marsh and wildlife area of statewide and national importance. As the Draft EIR/EIS points out, the Department of Fish and Game has found "that over 90 percent of the historical natural wetlands in California have been lost by conversion to other land uses and that the loss of wetland habitat has had a severe adverse effect on the number of waterfowl on the Pacific Flyway. The U.S. Fish and Wildlife Service has found the Napa Marsh as the number one priority for waterfowl wintering habitat preservation for the California Coast and the California Coast is ranked sixth in national importance.

260 The development of this site would preclude any future restoration of this significant marsh habitat area. Even in its present use for grain production the area represents a significant habitat area. Secondary effects on surrounding properties could be significant through the introduction of large number of people and human activities into a wildlife area currently isolated from such uses and could seriously disrupt the local ecosystem. The Draft EIR/EIS states that further study into these issues is currently underway.

261a It is unclear how the city proposes to incorporate this updated information into the environmental review and decision making process. An EIR/EIS should be prepared with a sufficient degree of analysis to provide the decision makers with adequate information to enable them to intelligently take into account the environmental consequences in making their decision. The Draft EIR/EIS notes that further study and analysis needs to be undertaken in several areas, particularly those discussed above to more fully assess the potential effects resulting from the project. These potential effects may be significant in nature. Consequently, this updated information should be incorporated into this Draft EIR/EIS and circulated prior to any further action on this project.

## 2. INSTITUTION CONSTRAINTS

262 The Draft EIR/EIS gives a very brief summary of the Solano County General Plan on page 19. In addition to the agricultural and urbanization policies summarized, the County General Plan sets forth policies for preservation of the Napa Marsh area. For example, the Land Use and Circulation Element states the County "shall preserve and enhance wherever possible the diversity of wildlife and aquatic habitats found in the Napa Marsh and Suisun Marsh and surrounding upland areas to maintain these unique wildlife resources". The Draft EIR/EIS goes on to suggest that

since LAFCO has extended the City's Sphere of Influence to include the project site, the city's General Plan would take precedence. The Draft EIR/EIS also suggests that the city expanded the sphere of influence with the intention of annexing the Cullinan Ranch site to the City.

As stated under Solano LAFCO guidelines by inclusion of an area in a city sphere of influence "it is not necessarily implied that all lands within the sphere of influence boundary will be eventually annexed". Indeed, the City's negative declaration for the City's sphere of influence expansion stated the change in the sphere would not change existing land use and implied that this change would not necessarily lead to further action. If further action had been contemplated then an EIR should have been prepared at the time of the sphere of influence change as suggested in our letter dated June 11, 1982 as required under CEQA Guidelines, Section 15037. Therefore LAFCO still must make a determination in light of the environmental consequences identified in this Draft EIR/EIS in determining the appropriate general plan policy document to follow i.e. the city or County General Plan and in ruling on future annexation of this area.

### 3. REGIONAL SIGNIFICANCE

The Napa Marsh area is identified as an area of both statewide and national importance. Consequently, this project should be viewed in a larger context than simply addressing the goals of the City's general plan and evaluating alternatives derived within the City's general plan framework. The stated public benefit of the project is the provision of additional housing for the City and San Francisco Bay Area. From the City's point of view the project would increase the diversity of housing opportunities within the city and would contribute to the City's self described goal of 12,716 more dwelling units by the year 2000. However, there is currently a substantial amount of land available for housing within the existing city limits and a number of projects proposed in these areas. In addition there are other options available to the city for further expansion. However, from a regional point of view there may be more suitable sites within the region for a similar type of development in a less environmentally sensitive area and still provide the public benefit of increasing the housing supply in the San Francisco Bay Area.

263

Since this environmentally sensitive area is of statewide and national significance and the development is of regional consequence, the Draft EIR/EIS should have explored at least one alternative set within the larger regional context. This alternative might have explored alternative sites which might be available for a similar type of development within the region.

### 4. PROJECT PHASING

The proposed project is expected to be completed through seven phases over what could amount to be a twenty year time period. There is little discussion as to the inter-relationship between

264 the phases and whether each phase can stand on its own. Are there any substantial impacts which would occur if the project were only partially completed? For example, the project does not have a net financial benefit until phase 6. If the project were not completed through phase 6 it would result in a financial drain on the city. Does the scheduling of public improvements and facilities within each phase address the needs of that phase and mitigate the impacts, or are there phases in the project which are ultimately dependent facilities to be provided in later phases to address these earlier needs which if not completed would result in significant impacts.

5. OTHER COMMENTS

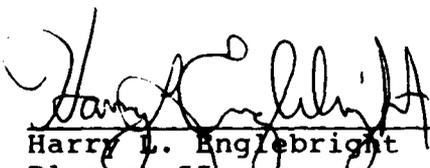
265 Soils and Agriculture. The draft EIR/EIS does a good job in discussion the significance of the agricultural activity which is currently taking place on the property. While the property is Class IV soils and not considered prime agricultural land, it in fact represents an important extensive agricultural area through its contribution to the economic vitality of the local north bay dairy industry. We would agree with the conclusion that the loss of this hay production must be considered a significant unavoidable adverse impact in this area due to the cumulative adverse effects on local dairies.

266 Traffic - The proposed project would create significant adverse impacts on the circulation system. Even with proposed mitigation measures, a substantial portion of SR 37 and SR 29 would remain at LOS F. Even with further significant improvements to bring these and other rates to LOS E, the rates would be substantially below LOS C considered desirable for urban conditions.

267 Aesthetics - Highway 37 is designated in the Solano County General Plan as a scenic highway and recommends this area remain in open space uses. The introduction of an urban setting in this marsh area would represent a significant change of this landscape element and could be incompatible with the existing aesthetic surroundings. While steps can be taken to reduce this impact through landscape buffers and sound walls, implementation of these measures would still be urban in character and would not be native or in keeping with the marsh environment. Consequently even with mitigation the project would have an adverse impact by the introduction of landscape element in an area extremely sensitive to visual disruption. If you have any questions regarding our comments, please feel free to contact me.

Very truly yours,

CLAYNE E. MUNK  
PLANNING DIRECTOR

  
Harry L. Englebright  
Planner II

CEM/HLE/lc

**LETTER #R-1**

257. Please see responses 234, 42, 39 and Appendix IV.J.

258. Please see response 41.

259. Comment noted.

260. Comment noted.

261a. Comment noted. The results of a yearlong wildlife monitoring program conducted by Harvey and Stanley Associates are included in Appendix IV.L. A summary of this final report has been included in the Vegetation and Wildlife section of the Final EIR/EIS.

261b. The results of all additional studies that have been made are included in the Final EIR/EIS which will be circulated for public review for 30 days.

262. A discussion of LAFCO's approval of the sphere of influence change is contained in the response to comment 64.

In addition, the commentor is correct in stating that additional LAFCO action will be necessary on the annexation of the project site to the City of Vallejo.

263. As indicated in response to comment 141 there are no other suitable sites for a marina-oriented project of this type on developable land in the North Bay area.

264. The revised economic/fiscal analysis indicates that the project has a positive impact during all phases. Full funding for the library would be achieved in phase 4 before half of the ultimate population level of the project is reached. Thus, a positive fiscal result could be obtained even if a significant portion of the project is not built.

265. Comment noted. See also response to comment 21.

266. See response 10.

267. Comment noted.



# NAPA COUNTY

1  
C1

AIRPORT

WILLIAM L. PARTAIN, A.A.E.  
DIRECTOR OF AVIATION

2030 AIRPORT ROAD · NAPA, CALIFORNIA 94558  
AREA CODE 707/226-3300

June 28, 1983

Ms. Ann Meridith  
Planning Department  
P. O. Box 3068  
Vallejo, California 94590

Subject: Draft Environmental  
Impact Report/Statement,  
Cullinan Ranch

Dear Ms. Meridith:

Thank you for the opportunity to review and comment on the Cullinan Ranch Draft Environmental Impact Report/Statement.

The Napa County Airport Advisory Commission and Staff, reviewed the Draft Report prepared by Torrey & Torrey Inc. for the proposed Cullinan Ranch development at its June 8, 1983 meeting. The Airport Advisory Commission presents the following observations and concerns:

The Commission has concerns regarding the impact of a development of this magnitude on the partial instrument landing system located on the project site along the extended runway centerline, the potential effect of street lighting on flight safety, the possible risk involved in locating a school in the extended jet aircraft approach zone, and the possible need for mitigation for overflight noise.

268  
The instrument landing system outer marker is located near the center of the project proposal, is an integral part of the system for safe arrival and departure of aircraft using the Napa County Airport during instrument conditions. The outer marker can only be relocated with the concurrence of the FAA.

269  
The Airport Master Plan projects that by the year 1990, we may expect that the number of aircraft based at the Napa County Airport will double today's number. Likewise, many of the additional aircraft using the airport on an increased basis will be business jets. We can expect that the noise level over the Cullinan Ranch proposal will increase proportionately. The rate of descent for aircraft using the instrument approach, places them at a lower altitude over the northern portion of the Cullinan Ranch.

We have established a safety zone which is defined by Ordinance 416 in Napa County and by Ordinance 855 adopted by the Solano County Board of Supervisors. As presently adopted, these Ordinances establish height limitations for encroachment into the air space above ground level. They do not however, take into consideration noise from overflight of aircraft.

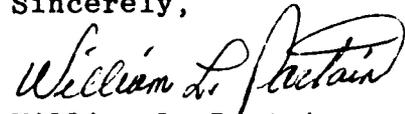
The Napa County Airport has requested that all future residents in this area grant a deed easement over the safety zone, as well as over the approach and departure zones, thus acknowledging that there may be some impacts from their proximity to the airport in the future.

270 The pattern and color of street lights in the new development is also of concern to the airport, since a pilot may confuse a straight street pattern and white lighting with an airport runway.

Mitigations - The Napa County Airport recommends that the following measures apply:

- 271
- o (Developer Responsibility) The pattern of streets should be curved to the extent possible, especially those within the aircraft approach path (i.e., the middle of the site) and street lights should be installed to reflect illumination downward rather than upward.
  - o (Developer Responsibility) The location of the school should be changed to move it away from the main aircraft flight path.
  - o (Developer Responsibility) An easement should be granted in any future deeds for the property according to the Napa County Ordinance.
  - o (Developer Responsibility) The developer should submit FAA Form 7460 (Obstruction Evaluation Form) prior to construction to receive FAA clearance for development close to the ILS facility.

Sincerely,



William L. Partain  
Director of Aviation and  
Secretary for the Airport  
Advisory Commission

**LETTER #R-2**

268. The instrument landing system outer marker will be relocated by the project developer to an appropriate location approved by the Federal Aviation Administration. The developer has discussed the issue with FAA, however, a precise location has not been selected. Most likely an open space area such as the bicycle trail on the dike will be selected. The developer will submit FAA form 7460 prior to construction to receive FAA clearance for the relocation of the ILS facility and equipment.

269. Since noise impacts from aircraft may not be mitigable developer may be required to have property owners within the project to grant overflight easements to Napa County in accordance with Napa County Ordinance.

While these easements will not mitigate the noise impacts, they will serve to notify future property owners of the problem and relieve the County of potential liability for noise-induced damage or injury. The easements will likely be included as CC & Rs in property deeds.

270. To the extent possible the developer will curve street patterns to avoid confusion with airport runways and will use street lighting that is acceptable to the airport officials.

271. The developer has proposed relocation of the Junior High School away from the main aircraft flight path, noise, or overflight. The school has been relocated to the west of the community park. However, multiple family residential development is now proposed for the area within the flight path.

MELVIN FROHRIB, President - Vallejo  
ALLAN WITT, Vice President - Fairfield  
GUIDO E. COLLA, Secretary - Suisun  
RAYMOND CHURCH, Trustee at Large

Received 6/6/83

E.W. KLIEWER, Dixon  
MILTON WALLACE, Rio Vista  
DON MUSANTE, Benicia  
C.J. GOLOMB, Vacaville

XCI

# Solano County Mosquito Abatement District

EMBREE G. MEZGER, MANAGER-ENTOMOLOGIST

P.O. BOX 304, SUISUN, CALIF. 94585

Telephone (707) 425-5768

Meetings: Second Monday Every Month  
Mosquito Bldg., Suisun Plaza: 7:30 p.m.

June 2, 1983

Ann Merideth  
City of Vallejo Planning Dept.  
P. O. Box 3068  
Vallejo, CA 94590

Subject: Draft Environmental Report/Statement For The Cullinan Ranch

Dear Ms. Merideth:

The Draft EIR/EIS for the Cullinan Ranch has been reviewed, the following comments being directed toward any additional concerns that the Solano County Mosquito Abatement District has in regards to this project.

The District is satisfied with the manner in which its initial responses pertaining to the Cullinan Ranch were acknowledged within the text of the Draft EIR/EIS.

## 272 Impacts - Water Quality

Water quality impacts in regards to the development of algal blooms are a matter of concern due to the potential of the additional habitat provided for mosquito larvae. Alternative A & B and their proposed mitigations (placement of tidegates) appear favorable in terms of prohibiting algal blooms, both flushing and high turbidity being limiting factors. As long as the water depth is 4 feet or greater, the growth of emergent vegetation (bullrush & tule sp.) will be inhibited. The proposed mitigation for alternate C, installation of tidegates at opposite ends of the main channel will assist in promoting tidal movement thus lowering the potential for algal blooms.

## Mitigations - Water Quality

The proposed mitigation for the location of storm drain discharge from the residential areas is satisfactory. The water movement should disrupt the life cycle of any mosquito larvae that may have begun to develop in the catchbasins associated with street runoff.

Impacts - Vegetation and Wildlife

273

Any additional restoration of areas into tidal marsh habitats should meet the guidelines set forth by formerly enclosed reference material (Wastewater Reclamation, Dredge Spoil Disposal, and Tidal Marsh Restoration) approved by the San Francisco Bay Conservation and Development Commission & the State Department of Health in addition to our agency.

274

The potential for mosquito production could occur in the event that islands were created near the inside of the levee in order to promote increased habitat for aquatic plants by reducing wave action (alt. A & B). As long as a shallow vegetated area did not develop between the islands and the levee, and isolated pockets of water did not accumulate on the islands, there should not be an increase in mosquito production. However, the development of a shallow vegetated area, sheltered from wave action could present a potential habitat for several species of mosquito larvae. This would depend on the time of year and quality of the water. As previously mentioned, a water depth of at least 4 feet will inhibit the growth of emergent vegetation.

The District would appreciate the additional formentioned concerns being taken into consideration by your agency in the preparation of the final EIR/EIS for the Cullinan Ranch project.

Sincerely,  
*Carol Evkhanian*  
Carol Evkhanian  
District Biologist

**LETTER #R-3**

272. Algal blooms are not predicted by Krone/RMA under any alternative.

273. Comment noted. Information has been added to Mitigation Alternatives (C).

274. Comment noted. Appropriate information has been added to the Vegetation and Wildlife section of the Final EIR/EIS.

x CI

# MARIN COUNTY FARM BUREAU

P.O. BOX 219  
POINT REYES STATION, CALIFORNIA 94956  
TELEPHONE 663-1231

June 23, 1983

Planning Commissioners  
City of Vallejo  
% Ann Merideth  
P. O. Box 3068  
Vallejo, Ca. 94590

Dear Commissioner,

275  
The Marin County Farm Bureau is very concerned about the proposed development of the Culliman Ranch, west of Vallejo. The removal of this hay land from production has serious potential adverse impacts on the dairy and cattle industry in our county. The need for locally grown forage becomes increasingly important to these industries as the cost of imported feed continues to escalate. This project would remove from production nearly seven percent of the current local hay production which is a percentage that with other proposed projects in Marin and Sonoma County will increase substantially in future years.

Additionally, it is our feeling that new housing developments such as this one should be built where the necessary infrastructure is already in place, rather than in new undeveloped areas.

Sincerely,

*Ralph Grossi*

Ralph Grossi  
Land Use Chairman  
Marin County Farm Bureau

*Joe Mendoza Jr*

Joe Mendoza Jr.  
President  
Marin County Farm Bureau

RG/ph  
cpy to:  
Sonoma County FB  
Marin Conservation League  
Environmental Forum-P.Faber  
Solano Co. FB  
Cattlemans Assn.-Barry Hill

**LETTER #R-4**

275. Comment noted. See also response to comment 21.



# BAY AREA AIR QUALITY MANAGEMENT DISTRICT

July 7, 1983

**ALAMEDA COUNTY**

Joseph P. Bort  
Fred F. Cooper  
L. N. "Judge" Landis  
(Vice Chairperson)  
Frank H. Ogawa

**CONTRA COSTA COUNTY**

Thomas J. Corcoran  
Sunne Wright McPeak

**MARIN COUNTY**

Al Aramburu

**NAPA COUNTY**

Harold I. Moskowitz

**SAN FRANCISCO COUNTY**

Harry G. Britt  
Carol Ruth Silver

**SAN MATEO COUNTY**

Gus J. Nicolopoulos  
K. Jacqueline Speier

**SANTA CLARA COUNTY**

Rod Diridon  
(Secretary)  
Ralph P. Doetsch, Sr.  
Roberta H. Hughan  
Susanne Wilson

**SOLANO COUNTY**

John F. Cunningham

**SONOMA COUNTY**

Helen B. Rudee  
(Chairperson)

City of Vallejo  
Planning Department  
555 Santa Clara Street  
Vallejo, CA 94590

Attn: Christie Huddle  
Assistant Planning Director

Dear Ms. Huddle:

We have reviewed the Draft Environmental Impact Report for Cullinan Ranch, a proposal to develop 4500 dwelling units on 1493 acres along State Route 37 in Vallejo.

The DEIR describes traffic congestion as an unavoidable adverse impact of the project for all of the "build" alternatives. We believe that the air quality analysis may underestimate actual worst-case conditions if State Route 37 traffic is impacted as seriously as has been estimated. We note that project-generated traffic is reported to have a severe adverse effect on Route 37. As indicated on Table 6 in the DEIR, even with two more added lanes, a major portion of Route 37 would operate at Level of Service (LOS) F during the morning and evening peak hours, even with mitigation. While we generally concur with the ramp/local street intersection analysis done by the traffic consultant, we are concerned about local traffic operation during peak hour. Such local traffic is frequently governed by prevailing traffic conditions on the main highway system regardless of local street capacities. We believe that there likely will be back-ups on the Walnut Avenue interchange which could easily extend to arterial streets and collector streets in the project area. This will set the stage for conditions with low speed, prolonged idling, and long travel time. In this situation automobile emissions generated from the project may be several times greater than rates used in the air quality analysis.

The air quality analysis for the proposed project is well organized and generally sound. However, we note an average speed of 10 mph was used for CO intersection analyses (Caline3). In light of the over-capacity problems on Route 37, we believe a 10 mph average speed is high. An average speed of 5 mph for intersections appears more appropriate for modeling worst-case air quality conditions for CO.

Ozone in the Bay Area is a regional, not a local, contaminant (as described on page 105). The entire Bay Area has been designated non-attainment for ozone, and with implementation of the control measures proposed in the 1982 Bay Area Air Quality Plan, attainment of all

276a

276 b

July 7, 1983

276 c

standards is predicted in 1987. The control strategies for ozone precursors are regionwide, including Vallejo. As mentioned in the DEIR, stationary source and transportation control measures are included in the plan. A list of transportation measures appears on page 94 of the DEIR, including many of those mentioned in the Air Quality Plan. However, no commitment has been made by the City, Corps of Engineers, the county, or the developer to implement the transportation measures. We recommend and encourage including a commitment for implementation in the project in order to meet (or exceed) the 5 to 10% reduction in peak hour traffic expected in the EIR analysis. Because the proposed project requires extensive improvements on Routes 37 and 29 and adjacent roadway networks, we urge that traffic-related air quality impacts be thoroughly considered before a decision is made on the project size.

If we can be of assistance, please contact Sally Freedman, the Planner in our office.

Sincerely,



Milton Feldstein  
Air Pollution Control Officer

MF:ce

cc: A. Geraghty, ARB  
Y. San Joule, ABAG  
Dept. of the Army

**LETTER #R-5**

276a, b. Back-up of traffic on Walnut Avenue which extends to arterial and collector streets could increase background CO concentrations in the project area, as well as contributing directly to CO on affected streets. Tables III-14 and III-16 in the Final EIR/EIS show the results of a revised CO analysis which incorporates 5 mph peak hour traffic speed. The same background concentrations were used as in the original table, since these concentrations are based on the Vallejo monitoring station, which is in a more congested area than the proposed project. As a result these background concentrations will yield conservative results, albeit a bit less conservative than the original analyses in this particular way. The results indicate that violations of the state 1-hour average CO standard would occur under Alternatives B, C, and E at SR 37 and SR 29. Violations would also occur under Alternative C at SR 37 at Sacramento and at Wilson, and under Alternative A on SR 37 at Wilson.

276c. Mitigation measures which would reduce CO concentrations are those which would reduce traffic volumes and/or improve flow. They are discussed in Section III.H. of the Final EIR/EIS.

W1



# Association of Bay Area Governments

Hotel Claremont • Berkeley, California 94705 • (415) 841-9730

June 30, 1983

Ann Merideth  
Planning Department  
P. O. Box 3068  
Vallejo, CA 94590

RE: Cullinan Ranch Draft Environmental Impact Report and Statement

Dear Ms. Merideth:

Thank you for the opportunity to review this draft EIR/EIS. Our staff comments reflect concerns of many Bay Area elected officials embodied in the policies and recommended actions of ABAG's Regional Plan for the San Francisco Bay Area. The Executive Board has not taken a position on this project.

Our concerns focus on the potential effects cited in the environmental document on (1) the operations of the Napa County Airport; (2) Vallejo's need for housing affordable to low-moderate income households; and (3) water quality in the Bay from surface runoff.

277

1. The DEIR notes the potential effects of the proposed development on the operations of the Napa County Airport. This airport is a regionally significant facility whose operations should be protected under the Regional Airport Systems Plan adopted by ABAG and the Metropolitan Transportation Commission.

278

We fully support the proposed mitigation measures noted on page 23, especially the securing of noise easements (the project site will be subject to increased noise, and noise will be more intrusive in the future within the project site) and the need to protect the partial instrument landing system.

School relocation within the project site would be appropriate, and the street pattern and street lighting could be redesigned to recognize small jet overflights. The project should also conform to any findings of the applicable (Napa and/or Solano County) Airport Land Use Commission(s) pursuant to Chapter 1041, Statutes of 1982 (AB 2920).

279

2. ABAG's latest calculations indicate that 65% of Vallejo's 1990 housing need--about 9,000 units--should be targeted to the needs of low-moderate income households. For Alternatives A and C, the DEIR shows 3,000 and 2,250 units, respectively, at \$170,000. Are other sites and development proposals pending in Vallejo to meet the low-moderate need?

280

Furthermore, most of the "above moderate" households (above \$25,000 income) could not afford a \$170,000 new house without a substantial equity from the sale of another home. While recognizing the attrac-

Representing City and County Governments in the San Francisco Bay Area

June 30, 1983  
Ann Merideth  
page two

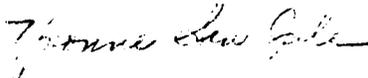
tiveness of a residential marina community, we would still recommend further examination of the "marketability" of this price housing-- and so much of it--in this location.

281

3. Surface runoff mitigation measures are needed for all three alternatives. The measures listed on page 41 are probably not adequate. ABAG's Oil and Grease and Urban Runoff Report contains a variety of suggested mitigation measures. We recommend that more innovative measures also be considered, specifically greenbelts, permeable drainage, etc., to increase infiltration and reduce runoff flowing directly from the site.

If you have questions about these comments, please do not hesitate to call.

Sincerely,



Yvonne San Jule  
Planning and Budget Coordinator

**LETTER #R-6**

277. Comment noted.

278. Comment noted. See also responses to comments 270 and 271.

279. The comment raises questions about the provision of low and moderate income housing. The developer's objectives are to develop a marina-oriented community with primarily market rate housing. However, other housing developments proposed in Vallejo will contribute to the city's fair share of low and moderate income housing needs. Appendix IV.D, referenced in response to comment 108, lists all of the current subdivision activity in the city. A portion of these will be in the low and moderate income range.

280. The developer's market feasibility study indicates that there is a demand for marina-oriented housing in the price range indicated. A detailed market study entitled "Cullinan Ranch Housing Market Analysis" was prepared in June 1982 by Alfred Gobar Associates, Inc. This study which surveyed marina-oriented housing prices throughout the Bay Area, is on file at the Vallejo City Planning Department.

281. The proposed stormwater pollution control measures are more vigorous than those in force at present in most Bay Area communities. More sophisticated measures could be incorporated into the development during the design stage.

## Memorandum

XCI

To : Gordon F. Snow, Ph.D.  
Resources Agency

Date: June 15, 1983

Ann Merideth  
Planning Department  
555 Santa Clara Street  
P.O. Box 3068  
Vallejo, CA 94590

RECEIVED  
JUN 17 1983

From : CALIFORNIA WASTE MANAGEMENT BOARD

State Office Building

Subject: SCH. #82083110 - Draft Environmental Impact Report/Environmental Impact Statement for the Cullinan Ranch Specific Plan.

We have reviewed the subject EIR/EIS for the Cullinan Ranch development of 4,500 residential units with supporting commercial and recreational land-uses in the City of Vallejo. We find the report does not address the potential impacts of solid waste generation by the proposed project. Because of increasing waste disposal problems associated with growth and development in the Bay Area, we recommend including a discussion of Solid Waste Management in the final EIR/EIS.

282 In order to assess the cumulative impact of growth projects on local solid waste facilities, the following information should be provided:

Environmental Setting

- . A brief description of existing solid waste facilities, including collection, transfer, and method of disposal.
- . The location, capacity and life expectancy of available landfills.

Environmental Impacts

- . An estimated volume of waste material expected to be generated by the project, based on the number of proposed dwelling units or population projections. (Per capita rate factors for solid waste generation by various land-use designations are available from local planning offices.)

Mitigation Measures

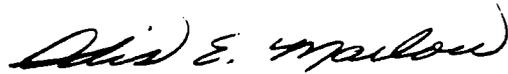
- . A brief discussion of local plans for developing future disposal sites.
- . The Board encourages the reduction of solid waste through local recycling policies and resource recovery programs.

(Alternatives to landfilling could include drop-off centers for recyclables, curbside separation and collection systems, composting of organic materials, and possible waste-to-energy options.)

Most of the above information is available in the Solano County Solid Waste Management Plan by contacting David Hubbell, Solano County Planning Department in Fairfield at (707) 429-6561.

Thank you for the opportunity to review the EIR/EIS for the Cullinan Ranch Specific Plan. If you have any questions regarding our comments, please contact Frank Plesko of my staff at (916) 323-0129.

Sincerely,



Douglas L. Strauch, Chief  
Waste Management Division

**LETTER #S-1**

282. An analysis of solid waste impacts has been added to the text of the Final EIR/EIS beginning on page 124.

## Memorandum

4  
CI

To : 1. Projects Coordinator  
Resources Agency

Date : June 24, 1983

2. City of Vallejo  
555 Santa Clara St.  
Vallejo, CA 94590

From : Department of Fish and Game

Subject: Draft EIR/EIS, Cullinan Ranch, City of Vallejo, Solano County; SCH 82083110

The Department of Fish and Game has reviewed the Draft EIR/EIS for the Cullinan Ranch and Guadalcanal Village projects and we have the following comments and recommendations.

The project proposes to develop 4,500 residential units, two (2) marinas, restaurants, hotels, shops and offices on 1,551 acres of reclaimed bay wetlands. This project is the first major development proposed within the Napa Marsh.

283 The Cullinan Ranch project is the most environmentally significant project proposed in recent years in the San Francisco Bay area because the project will not only involve impacts on the project site but will impact the Napa Marsh, San Pablo Bay, San Francisco Bay, and the Pacific Flyway. The potential for adverse impacts to fish and wildlife resources are substantial and significant. In our opinion, unavoidable damage will be caused by the proposed development.

284 The Final EIR/EIS should examine and utilize all information pertinent to the San Pablo Bay and Napa Marsh such as the U.S. Fish and Wildlife Service's winter waterfowl surveys, U.S. Fish and Wildlife Service's reports relating to the San Pablo Bay National Wildlife Refuge, U.S. Fish and Wildlife Service's report on the California Coast Concept Plan for Waterfowl Wintering Habitat Preservation and Department of Fish and Game's reports on the Napa Marsh. This information has not been utilized in the Draft EIR/EIS.

285 Impacts to fisheries resources are not adequately addressed in the Draft EIR/EIS. The Final EIR/EIS must include a detailed discussion of the fisheries resource and probable impacts.

286 The Draft EIR/EIS suggests off-site mitigation which will not compensate for the extensive intrusion into the Napa Marsh. The presence of such a development will create long-term fish and wildlife disturbances which will not be balanced by off-site work.

Section 15001(f) of the CEQA Guidelines requires that a governmental agency take certain actions if an EIR shows substantial adverse environmental impacts could result from a project. These actions include changing the project, imposing, conditions on the project, adopting plans or ordinances to avoid the problem,

selecting an alternative to the project, or disapproving the project. In the event that the project is approved without adequate mitigation of significant effects (Section 15088), a written statement of overriding considerations must be provided for each unmitigated significant effect (Section 15089).

We have made detailed comments in the attachment titled "Detailed Comments on Cullinan Ranch Draft EIR (SCH 82083110). Department of Fish and Game personnel are available to discuss our concerns and recommendations in more detail. To arrange a meeting, the project sponsor or applicant should contact Mr. James A. Swanson, Wildlife Biologist, telephone (707) 944-4465; or Mr. Theodore W. Wooster, Environmental Services Supervisor, Region 3, Department of Fish and Game, P. O. Box 47, Yountville, CA 94599; telephone (707) 944-4489.

Director

*A. D. Carpenter*

Detailed Comments on Cullinan Ranch Draft EIS (SCH 82083110)

The Draft EIR/EIS lists only two significant environmental impacts affecting fish and wildlife which cannot be avoided:

1. Loss of agricultural field habitat and restoration potential.
2. Cumulative adverse impacts of increased visitor use of the Napa Marsh.

Department of Fish and Game personnel have identified the following additional unavoidable significant impacts to fish and wildlife:

287

(a) Seasonal ponding areas on Cullinan Ranch utilized by wintering waterfowl and shorebirds will be destroyed.

288

(b) Development on Cullinan Ranch will inhibit wildlife movement between San Pablo Bay and the Napa Marsh. Wildlife movement along Dutchman Slough will be interrupted by the 300-400 foot proposed levee breach.

289

(c) The project will create a substantial increase of boat traffic in the Napa Marsh, which will destroy marsh vegetation due to wave wash, interfere with hunting and fishing, and harass wildlife.

290

(d) Approximately 1,550 acres of agricultural field habitats and associated open space will be lost.

291a

(e) There is a potential for water quality problems in the proposed artificial lagoon, Dutchman Slough and the Napa River resulting in adverse impacts to fishlife.

291b

(f) The public fishing and hunting access along Dutchman Slough will be reduced from a continuous 4 1/2 mile stretch with parking provided at each end to a 9 mile round trip loop access with parking at one end. Due to the proximity to housing and new City Limits, the present legal hunting will be eliminated at this access area.

292

(g) The proposed project represents the initial development intrusion into the Napa Marsh and San Pablo Bay shoreline. It will severely disrupt the last remaining major wetlands and bay habitats in California. The Draft EIR (p. 151) identifies the growth inducing aspects of this project, including the demand for further development into the surrounding diked baylands, yet this is not disclosed to be a significant impact affecting fish and wildlife.

293

The Draft EIR/EIS relies almost exclusively on two reports prepared by Harvey and Stanley Associates for its discussion of Vegetation and Wildlife. The first report (Appendix D), "Cullinan Ranch Ecological Aspects" (June 1982), was developed after three months (12 site visits) of field work. The report provides some basic field data, but due to its limited biological information, reliable conclusions cannot be developed from this report. However, this report does conclude that 1,551 acres of low wildlife use habitat would be replaced with 960 acres of high to moderate wildlife use habitat. Our experience does not support this conclusion and the Department of Fish and Game does not concur with this finding.

294 The second report (Appendix A) "Cullinan Ranch Wildlife Monitoring Program" (Interim Report, February 1983) represents six months of a one-year study. Even when completed, this one-year study will provide only a sample of conditions that occurred during this time period. Fish and wildlife population numbers, habitat utilization, densities and seasonal trends cannot be determined from the information gathered for this report. Accurate and predictable conclusions require several years of data to account for variation in these factors between years.

295 In addition, the method of bird census is not entirely valid for all species, particularly waterfowl and shorebirds. These species are easily disturbed by human activity and will avoid the area if possible. The time of day is also critical as waterfowl are most active during short periods in the early morning and late evening.

296 The proposed development will include two marinas and water-oriented housing which will include 1,000 individual boat docks, resulting in more than 1,700 new boats (expandable to 2,200 plus dry storage). The Draft EIR/EIS briefly mentions the potential secondary impact to vegetation and wildlife due to increased boat traffic and human activity. The increased boat traffic in the Napa Marsh is a substantial impact that requires additional evaluation. The amount of boat traffic, types of vessels, habitat disturbance, wildlife harassment, bank erosion, and interference with fishermen and hunters needs to be evaluated.

297 The Draft EIR/EIS contends that the Cullinan Ranch has minimal value for water-associated birds as the site remained free of standing water this year. An aerial survey, with photography, during late April 1983 revealed extensive ponding areas; a ground survey during mid-May also revealed numerous depressions devoid of oat hay, indicating prolonged inundation. Though the amount of ponding area has been reduced due to land-leveling during the fall of 1982, much of the site still provides these seasonal ponds. Another reason for observed low use by waterfowl is these populations have been substantially reduced due to two years of extensive drought conditions in the Canadian breeding grounds. Another contributing factor to reduced waterbird use on Cullinan is this year's abundance of other flooded areas, resulting from the high rainfall which dispersed the birds to these other areas. Napa Marsh and adjacent San Pablo Bay are one of the major wildlife areas of the state. The Department has identified 113 species of birds in the marsh, including 68 species of water-associated birds. At least two-thirds of the west coast populations of canvasback ducks winter in this area. Many other species of waterfowl including scaup, pintail, mallard and widgeon utilize San Pablo Bay and the Napa Marsh as a wintering area. A waterfowl survey in November 1981, a year in which waterfowl numbers were down more than 36%, showed that at least 135,000 waterfowl utilizing North San Francisco Bay (San Pablo Bay) and the Napa Marsh.

298 Of major concern to the Department is the probable interference the proposed development would have on movement of waterfowl and shorebirds between the San Pablo Bay National Wildlife Refuge and the Napa Marsh. The Draft EIR/EIS contends that most birds flying over Cullinan Ranch were above 75 meters. However, the method of data collection will not give an accurate evaluation.

Studies involving powerlines and waterfowl show that these obstructions create difficulties for waterfowl. The waterfowl species of most concern in this area is the canvasback duck. This species' usual flight patterns are at low altitudes and high speed. This species is very sensitive to human disturbance. Development on Cullinan Ranch would pose a potential barrier and deterrent to free movement because of multi-story buildings, sailboat masts, and human disturbance.

299

The fisheries information in the EIR/EIS is incomplete at best. The Department has conducted sampling in the Napa River system for many years. Our data reveal at least 31 species of fish present. The lower Napa River and Marsh is a nursery area for the California halibut, striped bass, sand dabs, and the Dungeness crab (market crab). The Napa Marsh is also a spawning and nursery area for the shiner perch, an important forage fish for many sport and commercial fishes. The California splittail also spawns in the Napa Marsh; this species is a native minnow which is found only in the Napa Marsh and the Delta region. Adult and juvenile striped bass were the most abundant species observed in our sampling, indicating that the Napa Marsh is an important habitat for this species. The striped bass is most abundant in the marsh from June through October which will coincide with the time of year when project-induced water quality problems would be most severe.

300a

The proposed mitigation will not reduce impacts to a level of insignificance (Section 15143 CEQA Guidelines). Only the 30 acres of tidal marsh development along the levee is potential mitigation in our opinion. The other on-site mitigation proposals have little or no mitigation value. The large increases in numbers of people, boats, and other disturbance substantially limit the lagoon and other open space areas to relatively low values.

300b

It should be clearly pointed out that the State of California is the present landowner of all lands outboard of the levee and that a public access easement already exists on the levee and that protection of these areas is not mitigation for project-caused impacts.

301

Creation of the artificial open water areas will require extensive periodic maintenance dredging and spoil disposal activities where no such need currently exists. The use of wetlands or former wetlands, as well as the aquatic disposal of dredge spoils will adversely affect fish and wildlife. To address the magnitude of and mitigation for dredge-related impacts, a site specific sedimentation study must be conducted prior to EIR certification to adequately define and/or confirm assumptions and conclusions discussed in the Draft EIR/EIS. Without such data integrated into a comprehensive assessment of the detailed time schedule and long-term economic of dredge-spoil activities, the subject discussion is inadequate. We suggest that an endowment concept be employed to address the costs of ongoing maintenance dredging, land acquisition and other dredge disposal costs for the project life.

302

Boating (p. 30) - The introduction of 1,700 to 2,200 boats where very few currently exist creates the potential for spills or discharge of not only petroleum products, but detergents and antifouling agents as well. Regular and seasonal maintenance of boats involves washing, draining bilge water, sanding

and painting. All of these activities have potentially adverse effects on fish and aquatic life.

303 Copper is the most common heavy metal used in antifouling paints and is found in high levels in sea water, sediments, and fouling communities in marinas (Nixon, et al, 1973, Young, 1974, 1975). Although copper has been found to be significantly higher in marinas, little is known about its transfer through local food chains or long-range effects on the biota. The office of Coastal Zone Management (1976) suggested that manufacturers need to develop and market less toxic alternatives to copper based antifouling paints. Until such time, the toxic effect of copper will continue to impair marina water and sediment quality.

304 Tidal Circulation (p. 34) - The most critical aspect of project design which affects water quality in the project lagoon and sloughs is tidal circulation. While we understand the subject was discussed in depth in the RMH/Krone report, we have not been provided a copy for review and find the EIR/EIS discussion does not adequately address the Department's water quality concerns. The link-mode model does provide some information on tidal heights and velocities, yet provides only a two dimensional representation of a three dimensional system. The Draft EIR/EIS acknowledges that channel widths have been modified somewhat since model analysis and now only represents the future semi-silted -10 MLLW condition. Since project depths are reported to be -20 to -30 MLLW, and staged in construction, the analysis fails to provide a sufficiently representative depiction of project circulation.

305 Water Quality (p. 37) - The discussion of nutrient and algal concentrations within existing sloughs reflects an extremely rich environment for algal growth. The statement that the "The dissolved oxygen concentrations tend to increase if there is an increase in water transparency..." (thus allowing increases in algal growth to produce more oxygen) fails to depict the equally adverse effects of algal respiration at night which can essentially eliminate all dissolved oxygen needed by other aquatic life. Such conditions have occurred a number of times in a nearby lagoon belonging to the Leslie Salt Company, during which as many as 10,000 striped bass were killed.

Other similar aquatic residential developments have attempted to resolve the algal growth-nuisance problem through the use of aquatic herbicides. Herbicides by their very nature limit the productivity of the waterway for fish and aquatic life and may actually create toxic conditions for juvenile fishes. Measures to avoid this situation must be spelled out in the Final EIR/EIS.

Water Quality (p. 39) - A steady state calculation of dissolved oxygen cannot depict the dynamics of algal growth-respiration which determine the concentrations of dissolved oxygen available of fish and aquatic life. Further water quality modeling and analysis are necessary to provide assurance that adequate dissolved oxygen (5 ppm) can be maintained at all times in all areas and at all depths of the lagoon.

306

The statement that "Nutrients are not expected to be a problem in project waters for any of the alternatives, since phytoplankton growth will probably be light limited", is less than convincing. What site specific data has been submitted to support such a conclusion? The conclusion that other water quality parameters are not expected to vary significantly from values found in adjacent sloughs as long as there is adequate tidal circulation begs the question since the determination of what is adequate is based on maintenance of water quality.

The discussion of water quality effects of project implementation in the Draft EIR/EIS is unsupported and inadequate to provide a basis for rational interpretation and conclusions. Contrary to opinions stated in the draft, a comprehensive assessment of temperature, salinity, nutrient-sediment equilibria changes with water residence, stratification and phases of development is an essential element of impact analysis.

We concur that an oil spill contingency plan (p. 41) will be necessary. We further suggest that in the event of a spill, the Department of Fish and Game along with the U.S. Coast Guard should be immediately notified.

The dispersion of gasoline (p. 42) as well as diesel fuel is unlike that of heavier petroleum hydrocarbon. Not only do they volatilize into the atmosphere, but solubilize into the water column as well. Gasoline is reported to have a limited solubility (approximately 10 ppm) yet concentrations as low as 1 ppm have been shown to be toxic to sensitive fish species.

The basis of sensitivity of each resident and migratory fish and invertebrate species (including their dietary preferences) to repeated dredging, low dissolved oxygen and boat maintenance operations is necessary to adequately evaluate the effects of marina development.

307

The statement made by Sol Friedman, Engineer-Manager of the Vallejo Sanitary and Flood Control District (p. 116) that sufficient sewage treatment plant capacity is anticipated for construction of Alternatives A and B is at variance with Gobar analysis (p. 141) which indicated no capacity for any of the proposed alternatives currently exists. The subject of plant capacity and compliance with waste discharge requirements imposed by the Regional Water Quality Control Board, especially in light of other land developments currently in stages of planning (p. 20), must be addressed. The district's December 1982 request for relaxation of EPA's secondary treatment requirements together with non-availability of grant funds for plant expansion creates serious doubt that fish and aquatic life will be adequately protected through project implementation in any form.

The Draft EIR/EIS (p. 20) states that there are at present 2,335 acres of vacant land suitable for residential development within the City of Vallejo. The stated justification for development of Cullinan Ranch is that this is the only site which will allow for the creation of a major waterfront residential community. This does not appear to be a justifiable condition for over-riding consideration for project approval, for a project that will have significant adverse effects on fish and wildlife.

**LETTER # S-2**

283. Comment noted, see response to comments 45, 46, 47, 50-55.

284. Comment noted. See response to comment 399b.

285. Comment noted. A Summary of Harvey & Stanley Associates (1983) results of fish sampling has been added to the Vegetation and Wildlife section of the Final EIR/EIS. For a complete description of the fishes of Dutchman Slough, see Appendix IV.L (Pages 62-67, 108-109). Also see response to comments 50, 51, 53, 54, 105, and 106.

286. Comment noted.

287. In a response to comments sent to W.R. Williams Inc. (Sept. 30, 1983), Harvey & Stanley Associates responded to this comment. The following is quoted from their response.

"Seasonal ponding areas will indeed be destroyed by the proposed development. Because the property under current practices is well drained and pumped, we do not consider the loss of ponding to be a significant impact. Significant utilization of the ponded areas by waterfowl and shorebirds did not occur during this past year. If pumping were reduced, and seasonal ponding was more extensive, then indeed this impact would be more significant. Indeed, in the 18 flights over the Napa Marsh in the winter of 1982-83, there were several occasions when flights occurred immediately after heavy storms. Ponding was evident on the Ranch, but was a bit less extensive than on other agricultural tracts surrounding the Napa Marsh. Two to three days later, ponding on the ranch had greatly reduced or disappeared, while on other tracts this ponding continued for most of the winter. The value to wildlife of such ponding is limited if the duration of the ponding is limited. Harvey and Stanley Associates were conducting a monitoring program for another client on a diked agricultural property which did experience extensive ponding, and the utilization of these ponds was high, and markedly different with respect to both species composition and density from that reported at Cullinan Ranch."

288. In a response to comments sent to W.R. Williams Inc. (September 20, 1983), Harvey & Stanley Associates responded to this comment. The following is quoted from their response.

"We agree that there will be changes in the patterns of movement of wildlife between San Pablo Bay and the Napa Marsh. It is impossible to assume that construction of this scale would not change these movements. The presence of housing and other structures certainly would tend to reroute some of the avian traffic. These changes will likely occur, even though most of the recorded flights during the past year were at heights above 75 feet, and most of the birds flying over the Ranch were not crossing the west end of the property. The majority of flights at Redwood Shores, for example, were primarily along the watercourses of the development, although birds also flew over the tops of structures and bridges. Similar flight patterns probably did not exist before Redwood Shores was developed, partly because the lagoons which are used by wildlife now did not exist at the time. The significance of the potential changes at Cullinan Ranch is really the key issue, and whether the potential impacts of changes can be reduced to a level of non-significance.

"Potential significant impacts related to changes in the patterns of movement would occur if 1) the development increased direct bird mortality due to collisions with man-made structures; 2) access were blocked to significant feeding or resting areas; or 3) indirect mortality was increased due to collisions with structures in other areas or due to other causes."

After conducting a literature search of avian mortality at man-made structures (U.S. Fish and Wildlife Service 1980), Harvey & Stanley Associates (1983) found little evidence to support the notion that waterfowl mortality would increase significantly due to collisions with proposed structures or masts of sailboats; however, waterfowl are known to collide with tall buildings and towers during periods of heavy fog or stormy weather and the possibility of occasional collisions would always exist. (See response 46 for further information on collisions.)

After a yearlong study of bird use of the Cullinan Ranch, Harvey & Stanley Associates (1983) concluded that the proposed development would not block access to significant feeding or resting grounds, although it may change the patterns of movement. Inhibition of wildlife movement between San Pablo Bay and the Napa Marsh has been added to the list of unavoidable significant impacts in the Final EIR/EIS.

Regarding the potential for increased mortality due to other causes and changes in flight patterns, the following is quoted from Harvey and Stanley Associates response.

"It has also been suggested that there may be additional mortality associated with energy expenditures while attempting to travel around the Ranch, or otherwise modify flight patterns. For migratory species which are accustomed to travelling thousands of miles, a few hundred meters, or a kilometer would not seem likely to significantly affect survival rates.

"There are several methods for reducing the extent of changes in flight patterns which may have been considered, but were not discussed in regards to either alternatives or mitigations. The presence of open water passages (with no impeding structures) from the north to the south of the Ranch would reduce the extent of changes in the flight patterns. In the existing project plan the eastern sections show open water "fingers" extending basically to the access road adjoining State Highway 37. Likewise in the western sections, the fingers extend to adjoining salt ponds. The reduced project alternative shows open space areas, which also would decrease the changes in movement patterns. Any extension of the open water of the marina which extends to the project boundary would provide avenues for movement. Extending these fingers where possible in the center sections of the development plan would be of value. The extensive movement of birds along the open water routes at Redwood Shores in spite of a four-lane arched bridge over the water is evidence of the effectiveness of such an alteration."

It has been documented for both forest (MacClintock et al. 1977) and marsh (Wetland Evaluation Class 1981) habitats that some type of connecting corridor, even if it is disturbed or degraded, can have beneficial effect on bird usage and species diversity in the two disjunct habitats. The corridor provides a travel route which is important both for migrating and resident birds. Although the corridor may be no more than a narrow band of disturbed habitat, it plays a role in the ecosystem.

In a study of Famosa Slough, San Diego, California (Wetland Evaluation Class, 1981), where apartment buildings are located between the San Diego River Marsh and Famosa Slough, the majority of bird species took a longer route along a disturbed wetland corridor rather than flying a more direct route over the 3-story apartment complex. Short-billed dowitchers, the most abundant species, flew the more direct route over the apartments.

In a response to comments sent to W.R. Williams, Inc. (Sept. 20, 1983) Harvey & Stanley Associates responded to this comment. The following is summarized from their response.

Wildlife movement along Dutchman Slough will definitely be interrupted by the 300-400 foot proposed levee breach. Little effect on avian species is expected, but mammalian species may be more strongly affected. Most of these species (house mice, California voles, skunks, and ground squirrels) are common and of little concern.

Since little is known of the distribution and habitat requirements of the salt marsh harvest mouse in the sloughs of the Napa Marsh, however, it is more difficult to predict the significance of potential impacts. Populations are small and none was found in the vicinity of the proposed permanent dike breach during field studies. Salt marsh harvest mice are known to swim, but little is known of their dispersal habits or the effect of isolating populations from potential gene flow.

Interruption of wildlife movement due to the proposed levee breach has been added to the list of unavoidable significant impacts in the Final EIR/EIS.

289. The increase in boat traffic in Napa Marsh is an impact of significance and concern and has been included in the list of unavoidable significant impacts in the Final EIR/EIS. The potential disruption of breeding and nesting activities by sensitive species (e.g. clapper rails, black rails) has been discussed (see response to comment 55). The increase in boating activity in general will likely disrupt feeding and resting of many of the species dependent on the sloughs for such activities. The destruction of marsh vegetation due to wave wash; interference with hunting, fishing, and other forms of recreation; and harassment of wildlife by human intrusion, are all potential impacts which may result from increased boat traffic. See response to comments 54 and 56 for further information regarding boat traffic.

290. Comment noted.

291a. There is a potential for water quality problems resulting from a reduction in water quality. These are discussed in response to comments 51, 52, 53, 54, 105, and 106. Also see the Water Quality section of the Final EIR/EIS (pages 37-42).

291b. Comment noted. This information has been added to the impacts of the Vegetation and Wildlife section (page 73) and to the list of unavoidable significant impacts in the Final EIR/EIS.

292. Comment noted. The potential demand for further development into the surrounding

diked bayland is recognized. See response to comments 49, 88, and 144. Growth inducement has been added as a potential impact to fish and wildlife (see impact section of Vegetation and Wildlife in the Final EIR/EIS).

293. Comment noted. Harvey & Stanley Associates (1983) Final report on the Cullinan Ranch Wildlife Monitoring Program is included as Appendix IV.L to the Final EIR/EIS. This report was not available at the time the Draft EIR/EIS was prepared. The Final Report is a synthesis of all vegetation and wildlife surveys conducted at Cullinan Ranch during the course of 1 year (up to July 31, 1983.) It includes a discussion of potential impacts of the proposed development and suggests mitigation measures. A summary of this report has been included in the Vegetation and Wildlife section of the Final EIR/EIS. See response to comment 197 regarding the replacement of low wildlife use habitat by moderate to high wildlife use habitat.

294. Comment noted. Although the wildlife monitoring program spanned only a 1-year time frame, it did include sampling during the four seasons which provided an indication of seasonal use of the area by different species. Wildlife populations are constantly fluctuating and their use of various habitats and geographic areas changes from year to year. While it is true that a 1-year study will provide only a sample of conditions that may occur during a longer time period, the majority of species would have similar patterns of utilization from year to year. For example, as long as the Cullinan Ranch is being efficiently pumped, seasonal ponding would be at a lesser level than during this past winter. Avian species which would utilize the site probably would be similar to those found by Harvey & Stanley Associates (1983). See response to comment 401.

295. Harvey & Stanley Associates used the ground transect method modified from Emlen (1971, 1977) to estimate absolute densities (birds per unit of area) of birds on the Cullinan Ranch. Three transects, covering all habitat types represented on the Ranch, were monitored. In addition to transects, 18 aerial surveys were made to census waterfowl and shorebirds. Aerial surveys covered San Pablo Bay, the Napa Marsh, Leslie Salt Ponds, and Cullinan Ranch. Flying altitude was 500 feet dropping to lower altitudes when conditions seemed appropriate. A complete description of Materials and Methods is provided in the Final Report (Appendix IV.L, pages 21-25).

The Emlen method of censusing birds is widely used for land habitats and is considered reliable by biologists. Waterfowl are more difficult to census with this method than some

other species groups; point censuses may provide more accurate data in high waterfowl use areas. Aerial surveys are commonly used for censusing waterfowl; however, flying at lower altitudes would yield more accurate data regarding species identification. Many species of waterfowl can be identified from heights of 500 feet, but it is difficult to identify large shorebirds and almost impossible to identify the small species of shorebirds (e.g. sandpipers). Misidentification of similar bird species (e.g. coot vs ruddy duck) from altitudes of 500 feet also would be likely.

Harvey & Stanley Associates conducted their aerial surveys on clear days in a variety of tidal conditions. If the aerial surveys had been correlated with high tide conditions, more shorebird use of diked agricultural and upland habitats may have been documented. Shorebirds move to these areas when mudflats become flooded, such as in high tide conditions. For purposes of identifying the high use areas in the vicinity of Cullinan Ranch, the methods Harvey & Stanley used were adequate. They were able to determine that waterfowl use was higher in San Pablo Bay and certain salt ponds. Waterfowl use of the Cullinan Ranch was extremely low. If waterfowl are utilizing the agricultural fields for feeding, they are likely doing so during the night. Night surveys of such areas would require the use of infrared scopes which are difficult to operate and do not always give accurate data depending on moon phase, shadowing, and relief in the study area. Harvey and Stanley conducted a few night surveys, but found night surveys were not an efficient use of time because they were not yielding new data. Radio telemetry is probably the most accurate method of determining where birds go at night. Such a study would be expensive, however, and would be long term.

296. The potential impacts of increased boat traffic in the Napa Marsh have been discussed in response to comments 54, 55, 56, 105, 106 and 289.

297. In their final report (Appendix IV.L), Harvey & Stanley Associates stated that, "Significant utilization of the ponded areas by waterfowl and shorebirds did not occur during this past year." Ponding was evident on the Ranch, but was less extensive than on other agricultural tracts surrounding the Napa Marsh. Ponding occurred after heavy storms, but, due to the efficient pumping system on the Ranch, the water was greatly reduced or had disappeared 2 to 3 days later. On other tracts of land that did not have a pumping system, ponding continued for most of the winter. As the Department of Fish and Game stated in their letter, low use by waterfowl may have been due to the reduced populations of waterfowl in California and the abundance of other flooded areas resulting

from the high rainfall. In a drier year, there would be less ponding on these other areas which would reduce the value of the habitat for resting or feeding waterfowl and/or shorebirds. It seems unlikely that these birds would move to the Cullinan Ranch, as the Ranch would still have less available ponding than adjoining areas, at least under present agricultural practices.

298. The potential impacts of the proposed project on the movement of birds between San Pablo Bay and the Napa Marsh has been discussed (see response to comments 46 and 288). Response 46 also discusses the potential impacts to the canvasback duck.

299. Comment noted. The fisheries information collected by Harvey & Stanley Associates has been summarized in the Vegetation and Wildlife section of the Final EIR/EIS. Several fishes were present in Dutchman Slough during most months of the year including splittail, staghorn sculpin, tule perch, yellowfish goby, American shad, and striped bass. The remaining fishes were infrequent in collections. These included the starry flounder, shiner surf perch, long-finned smelt, three-spined stickleback, threadfin shad, inland silversides, Sacramento sucker, prickly sculpin, and silver salmon.

It is unlikely that striped bass spawn in Dutchman Slough, but they arrive there from spawning grounds in June and remain until the end of their first year at which time they move to the Bay (Harvey & Stanley, 1983). They grow from an average length of 5 cm (in June) to 23 cm (before moving to the Bay).

See response to comments 50, 51, 52, and 54 for information regarding potential impacts to aquatic resources.

300a. Comment noted. The 30 acres of tidal marsh development along the levee is potential mitigation. The dredge spoils site, which was originally slated for marsh restoration, is not considered mitigative since it would be used as a borrow site and excavated to a depth of -30 feet MLLW, then flooded with water. The life of the site is expected to be nearly 80 years; during most of those years open water would cover the site. If water quality were maintained through flushing, then use by waterfowl and other water-associated birds may be expected. While the water is deep, however, food availability will be limited.

Conversion of the agricultural fields to open water habitats can be considered some

compensation for the loss of the feeding, resting, and seasonal ponding values of the converted acreage. Those acres converted to residential/park habitats also will show significant wildlife use by urban-oriented species which are abundant in other available habitats.

The discussion of mitigation for the proposed project involves several complex issues. While the creation of specific habitats (e.g., open water, mudflats, tidal marsh) on the Cullinan Ranch would seem to mitigate for potential losses in the sense that the new habitats are more valuable habitats to wildlife than agricultural fields, the regional setting and amount of human intrusion which would be supported by the project must be taken into consideration. The project site is situated between two high use areas for wintering waterfowl, San Pablo Bay and the Napa Marsh. This area is also located on the Pacific Flyway. The importance that isolation plays to wintering waterfowl and shorebirds is difficult to quantify. The project site, as it is now, represents a single habitat unit, and may have higher value to wildlife because of its isolation than it would if the project were built and aquatic habitats were increased.

*Please see response to comment 197 for further discussion of this issue.*

The extent of mitigation required might be determined by a HEP evaluation as was recommended in the Draft EIR/EIS. Since many questions relating to habitat value and species sensitivity are a matter of professional judgement, the HEP procedure should involve a number of individuals with appropriate expertise. Such a "team" should carefully record all assumptions and decisions made in developing and carrying out the HEP. It should be anticipated that the HEP would identify the existing and proposed wildlife values pre- and post-project. A carefully and objectively executed HEP should reveal whether the mitigation proposed for the project approximates the potential losses anticipated for the project. The HEP methodology could only roughly account for some of the more speculative concerns such as disruptions of flight paths and extent of annoyance of resting birds by boat traffic.

300b. The data for responding to this question are not extant; furthermore, technical responses to this type of question are rarely, if ever, produced at more than a theoretical level. A technical response to this comment is not available for decision-making in this instance.

301. The Final EIR/EIS includes estimates of the amount of dredge spoils that must be disposed of. Appendix III.B of the Draft EIR/EIS includes a description of a dredging schedule and a spoils disposal method. Maintenance dredging will temporarily disrupt the benthic environment of the channels. The project does not propose to use existing wetlands for spoils disposal.

302. Comment noted and text revised beginning on page 30.

303. Please see response to comment <sup>1</sup>79.

304. The study, Water Circulation, Sedimentation, and Algae Growth in the Cullinan Ranch Project, by RMA/Krone, February 1982, was conducted during the planning phases of the Cullinan Ranch Development Project to assure a project configuration that would maximize water circulation and minimize sedimentation. The study included evaluation of the algae growth when the project depths were the minimum that would occur before maintenance dredging begins. Modifications to the planned project were found to be desirable after the study was completed. These modifications include reducing the number of side channels, widening the side channels, and reducing the lengths of some of the side channels. The constructed depths of the channels were also deepened. These modifications were not expected to have deleterious impacts on water quality. Since comments on the Draft EIR/EIS included questions about the effects of these modifications, a subsequent report was prepared to present the results of additional studies showing the anticipated range of conditions that would prevail during the interim and completed phases of the development. Other issues addressed in the report include sedimentation in Dutchman Slough; water quality impacts of construction and of maintenance dredging; planned water quality control measures; and impacts of the project on wildlife habitat near the project margins and the margins of Dutchman Slough between the entrance and the Napa River.<sup>1</sup>

305. Krone/RMA studies indicate that with the short residence times and considerable water depths in the lagoon nuisance algal blooms are not expected. This is supported by experience at the similarly located Bel Marin Keys. The Krone/RMA studies were designed to identify project configurations that would not require the use of chemicals to

control algae growth. Krone/RMA believe that steady state dissolved oxygen calculations are a reasonable representation of conditions where algae concentrations are low.

306. Krone/RMA believe that the level of analysis contained in Appendix ~~X~~<sup>III</sup>B of the Draft EIR/EIS is sufficient to draw the conclusions about water quality presented in the Final EIR/EIS. The Final EIR/EIS consultant has objectively reviewed the Krone/RMA analysis and agrees with the logic for these conclusions at this stage of the EIR/EIS review process.

307. In comment upon the Draft EIR/EIS, (see comment 251), Sol Friedman has indicated that sewage treatment capacity exists for early stages but not for the entire project. The revised Economic/Fiscal section (III.K.) indicates that the City may delay approval of the project if financing cannot be secured to improve the treatment facility.

---

<sup>1</sup> Resource Management Associates, R.B. Krone and Associates, Cullinan Ranch Development Project Responses to Comments on the Draft EIR/EIS, August 1983, 29 pages.

## Memorandum

X CI

To : Ron Bass, Director  
State Clearinghouse  
1400 Tenth Street  
Sacramento, CA 95814

Date: June 15, 1983

File : 10-Sol-37  
Cullinan Ranch EIR/EIS  
1493 Acre Development  
Residential, commercial,  
open space etc  
SCH 82083110

From : DEPARTMENT OF TRANSPORTATION  
Preston W. Kelley, District 10 Director

Subject:

We have reviewed the above noted report and offer the following comments:

308 Page 5-9 (Summary) indicates a level of service on Route 37 of "F" as an unavoidable adverse impact even with a 6 lane arterial. This is contradictory to suggested mitigation on page 90 for a 4 lane divided facility along the Cullinan Ranch frontage and 6 lanes easterly to Fairgrounds Drive.

309 In view of the freeway status of Route 37 at this location, the predicted volumes and LOS, interchange(s) would be warranted. The potential delays and accidents, if traffic signals were placed on a high speed rural highway, would be unacceptable.

310 Page 2 mentions Caltrans and Permit Action. The "usual" Caltrans Encroachment Permit Policy is that the developer is responsible for highway improvements needed for access to a commercial or multiple residential development. His responsibility is limited to his actual frontage plus any transition work. However, mitigation should be proposed to the full extent of impact.

311 On pages 116 and 118 the report states: "Caltrans staff has indicated a reluctance to installing the pipe on the Napa River Bridge." This should be more positive, such as: "An engineering decision has been made by Caltrans, Structures Maintenance Department, Sacramento, that no utilities are to be placed on the bridge."

312 Page 82(3) (Existing Conditions) Mare Island Causeway/Tennessee Street intersection is a five legged intersection, not a six.

313 Table III-4 page 86 - LOS for on ramps is based on what the mainline traffic will allow on the freeway. The 20,000 LOS E capacity is meaningless. Also, LOS should be based on peak hour traffic and not daily traffic.

314 The ramp designation westbound on should be westbound off.

315

Before any work is performed within the state highway right of way, an encroachment permit will be required. Application for the permit may be obtained at the Department of Transportation Office of the Maintenance Superintendent at 2019 W. Texas Street, P. O. Box 8, Fairfield, CA 94533. We urge the applicant seeking an encroachment permit to properly address the impacts affecting the state highway. If the applicant does not comply with our concerns, his encroachment permit will be denied.

A minimum of 4 to 6 weeks is required to process the application and issue a permit. Complex projects may require a considerably longer time.

Please send a copy of the final report to John Gagliano, Caltrans, District 10 Office, P.O.Box 2048, Stockton, CA 95201.

*John Gagliano*  
JOHN GAGLIANO, P.E.  
A-95 Coordinator  
(209) 948-7875  
ATSS 423-7875

JGE:jh

Attachment

cc: TGSmith

P.S. With respect to the noise impacts of state highway traffic generated noise on new residential developments, the following Caltrans documents should be reviewed for compliance with Caltrans policy:

1. Policy and Procedure Memorandum No. P74-47, Freeway Traffic Noise Reduction
2. Policy and Procedure Memorandum No. P77-40, Sound Barrier Construction by Others Within or Near State Highway Right of Way

RECEIVED  
JUN 23 1983

State Clearinghouse

**LETTER # S-3**

308. Although the Final EIR/EIS recommends a six-lane arterial street as mitigation (for Route 37), such a widening would not completely mitigate the anticipated impacts. As shown in Table III-6, page 88 of the Final EIR/EIS, much of Route 37 would remain service level F, even with a widening to six lanes. The current plans for improvement would however mitigate impacts. Also, see response 10.

309. The traffic portion of the Final EIR/EIS includes an analysis of the access requirement from the project to Route 37. This analysis is based primarily on the consideration of roadway/intersection capacity requirements and concludes that "two signalized at-grade intersections on Route 37 would be sufficient to accommodate traffic to/from Cullinan Ranch".

This conclusion assumes that overall traffic volume growth would be commensurate with Caltrans projections and that Guadalcanal Village and the South Parcels (North Housing Area) would also be developed. Thus, from the standpoint of traffic capacity, two signalized at-grade intersections would provide adequate access to the project under ultimate development conditions.

It is recognized that the installation of traffic signals at the two access intersections would result in the interruption of other traffic. Such interruption could be avoided by the construction of grade-separated interchanges. However, considering that through traffic on Route 37 would have a green signal indication approximately 60% of the time during peak periods (and significantly more during the off-peak), the total potential delay to through traffic is expected to be small.

From a safety standpoint, in general, grade-separated (i.e., diamond) interchanges would be expected to have a lower incidence of accidents than signalized intersections. The extent of the potential safety benefits attributable to such an interchange would, of course, be a function of the specific type of design and the actual accident experience at the signalized intersections.

The frontage of Cullinan Ranch along Route 37 is sufficiently large to allow adequate spacing between the easterly access point and the existing Walnut Avenue interchange, to accommodate either signalized intersections or grade-separated interchanges. Also, in

the Specific Plan for the proposed development, sufficient land is set aside to accommodate either type of access. Thus, it would be possible to construct grade-separated interchanges if needed.

310. The Final EIR/EIS suggests needed mitigation measures which extend beyond the project site's immediate Route 37 frontage. Also see responses to comments 10 and 29.

311. Comment noted.

312. Comment noted.

313. It is recognized that the peak hour capacity of the the on-ramps (at the Route 37/Walnut Avenue interchange) would be limited by the capacity of the main line highway section.

The volumes and capacities listed in Table III-4 of the Final EIR/EIS could be converted to a peak hour basis by using a 20% factor to approximate the peak hour's percentage of the daily total. With an analysis of either daily or peak hour conditions, Table III-4 indicates that the interchange ramps would not be the primary constraint on Route 37 capacity. (As noted above, the analysis of Route 37 mainline capacity is acknowledged to be more meaningful. Such an analysis is contained in the Final EIR/EIS and further discussed in the response to Comment 10.)

314. The Final EIR/EIS has been corrected (page 86).

315. Comment noted.

**OFFICE OF HISTORIC PRESERVATION**  
 DEPARTMENT OF PARKS AND RECREATION  
 POST OFFICE BOX 2390  
 SACRAMENTO, CALIFORNIA 95811



Date: June 2, 1983

In Reply Refer To: COE830527A

Project Coordinator  
 Resources Agency

316

Re: SCH# 82083110 Gullinan Ranch EIR/EIS

Thank you for requesting our comments on the referenced undertaking.

Further review is necessary and can proceed upon receipt of the following item(s):

- a  Detailed description of the undertaking. (Specify details) \_\_\_\_\_
- b  Detailed description of the location of the undertaking and adjacent areas. (Specify details) \_\_\_\_\_
- c  Maps. (Specify types) \_\_\_\_\_
- d  Delineate APEI\* on map(s).
- e  Photograph(s). (Specify subjects) \_\_\_\_\_
- f  Date(s) of construction of buildings, structures, etc.  
 Results of a review of: g  NRHP\* & updates h  CHL\* & updates i  PHI\* & updates
- j  Copy of an archeological site records and literature search for the APEI\*. Contact the appropriate Information Center listed on verso.
- k  Copy of a cultural resources survey and assessment report on the APEI\*.  
 Copy of a draft: l  overview m  management plan  
 n  survey proposal o  test excavation proposal  
 Copy of a: p  test excavation report q  data recovery proposal r  data recovery report
- s  Trinomial designations for archeological properties located within the undertaking's APEI\*.
- t  Name(s) of any federal agency(s) associated with the undertaking.
- u  Other. (Specify) \_\_\_\_\_
- v  Evidence that comments on the undertaking have been requested and obtained from local Native American or other interested ethnic groups.

Please contact Michael Rondeau (916) 445-6766 of our staff if you have any questions.

Sincerely,

*Knox Mellon*  
 Dr. Knox Mellon  
 State Historic Preservation Officer

RECEIVED  
 JUN 23 1983

State Clearinghouse

\*APEI=Area of Potential Environmental Impact  
 \*NRHP=National Register of Historic Places  
 \*CHL=California Historical Landmarks  
 \*PHI=Points of Historical Interest

**LETTER # S-4**

316. The concerns raised by the Office of Historic Preservation are discussed in the archaeology section of the Final EIR/EIS. A letter from the California Archaeological Inventory at Sonoma State University and the list of literature reviewed are attached as Appendix IV.H. In a letter dated January 17, 1983, the California Archaeological Inventory indicated that the likelihood of archaeological impacts at the site was low and no further study was necessary at this time. This letter is available for inspection at the Vallejo Planning Department.

## CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

1111 JACKSON STREET, ROOM 6040

OAKLAND 94607

Phone: Area Code 415  
464-1255

July 1, 1983

File No. 2128.04(TGR)tmh

Mr. Hal A. Boex  
Business Development and  
Planning Director  
City of Vallejo  
P. O. Box 2068  
Vallejo, CA 94590

Dear Mr. Boex:

Subject: Draft EIR/EIS for Cullinan Ranch Specific  
Plan - SCH #82083110

We have reviewed the subject report for development of a water-oriented residential community and associated excavated waterways on 1493 acres of diked historic wetlands known as the Cullinan Ranch. The project site is located adjacent to Dutchman Slough and when completed will widen and deepen the slough. The area is presently used for dry land farming.

The proposed project (Alternative A) consists of construction of 4500 residential dwelling units on 819.5 acres, excavation of 3.0 million cubic yards of bay mud to create a network of boat channels and marinas on 423.5 acres for mooring of 1600-1700 recreational vessels, use of excavated bay mud as fill for the project, and establishment of 250 acres of open space. The project will be constructed in several phases over a period of 20 years.

We have serious concerns regarding the potential significant adverse impacts on water quality resulting from the project as proposed. In the Basin Plan adopted by the Regional Board, the Napa River is identified as a water segment of low assimilative capacity. Dutchman Slough a tributary of the Napa River, is limited in the same respect. Furthermore, the Basin Plan identifies Napa Marsh as an area of special water quality concern. Any development which may adversely affect water quality in Napa River and its tributaries and Napa Marsh should receive early scrutiny by the approving governmental body for assurances for adequate water quality protection.

Several of our major water quality concerns have not been adequately addressed in the Draft EIR/EIS. The final report should discuss the following concerns and recommendations.

317

1. Pages 29-32, Marina - Potential live-aboard and house-boat use as a result of the proposed project should be discussed. Measures for mitigation of untreated wastewater discharges (both sewage and graywater) should be identified. We believe that the most effective way to prevent wastewater discharges from houseboats and live-aboards is by direct connection to shoreside sewers.
2. Page 31, Mitigations - The report should determine whether the proposed single pumpout facility will be sufficient to serve the sewage disposal needs for the proposed 1700 boats. The number of additional facilities should be specified.

318

3. Page 40, 2nd paragraph - Nutrient loading from the proposed 1700 boats during the dry season months should be discussed. This is the time of year when recreational use of boats is highest and the potential for algal blooms and depressed dissolved oxygen concentrations is greatest. Appropriate mitigation measures should be identified. The use of herbicides to control algal growth should be discussed and the chemicals identified. We recommend against the use of herbicides containing copper.

319

4. Page 40, Mitigations for urban runoff impacts - The types of restrictions on fertilizer and pesticide use and on car washing should be discussed in detail. Furthermore, assurances for adequate implementation of the remaining proposed mitigation measures should be provided.

320

5. Page 41, Mitigations for water quality impacts - The responsibility for maintaining the marina facilities and for enforcing the proposed marina and boating regulations, including the prohibition of open-water discharge from sewage holds, should be discussed in detail.

321

6. Page 42, 3rd Mitigation - The report should discuss the contingency plans in the event that post-development water quality monitoring detects problems. A water quality management plan for the proposed waterway system will be necessary and should incorporate the proposed mitigation measures for water quality impacts and any other pertinent information requested by the Regional Board.

July 1, 1983

322

7. Page 44, 2nd paragraph - The proposed 88-acre dredged sediments disposal site should be fully described (including any wetlands areas) and shown on a location map. The report should discuss whether or not a return water discharge from the disposal site is planned. Such discharge will be further reviewed by the Regional Board during the U. S. Corps of Engineers public notice period.

323

8. Page 57, Erosion Impacts - The potential for erosion and sedimentation impacts on Dutchman Slough during excavation of the waterways and filling for shoreside development should be discussed. Appropriate mitigation measures should be identified.

324

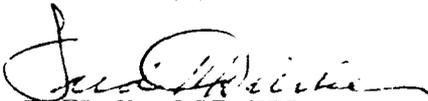
9. Page 65, DFG - The Draft EIR/EIS does not discuss conformance of the proposed project with the Resources Agency's Wetlands Protection Policy. The final report should resolve the issue of the projects compliance with the policy.

325

10. Page 117, Mitigations - We recommend that VSPCD rather than the developer take the responsibility for maintaining the pump stations. Logically, this assures operation and maintenance by one entity.

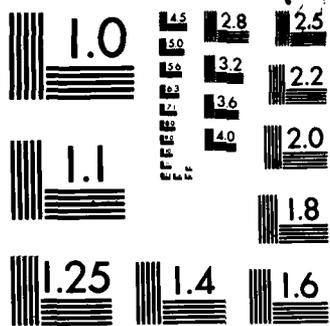
If you have any questions, please contact Theresa G. Rumjahn at (415) 464-1324.

Sincerely,



FRED H. DIEKER  
Executive Officer





MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

**LETTER # S-5**

317. The project developers do not intend to include any permanent houseboat communities within the project. It is possible that individual residents may berth houseboats in the marinas or at private docks; however, it is anticipated that use of these boats in the project area itself would only be occasional. The houseboats would use the same pumpout facilities as other boats in the community. The capacity of these pumpout facilities would have to conform to applicable Coast Guard, Regional Water Quality Control Board and BCDC regulations.

318. The developer proposes to prohibit the discharge of vessel waste to open waters. A pump-out station will be provided. Accordingly vessels are not expected to contribute to nutrient loads to the lagoon. The use of algae control chemicals is not proposed.

319. The quality of surface water in the developed project area can be related to urban stormwater runoff that enters the bay. Pollutant loads are introduced into urban runoff from two sources: catch basins and the land surface itself. Catch basins can be a source of first-flush or shock pollution. The liquid remaining in a basin between runoff events tends to become septic. The solids trapped in the basin take on the general characteristics of septic or anaerobic sludge. The liquid in catch basins is displaced by fresh runoff water in the ratio of one-half the volume for every equal volume of added liquid. During even minor rainfall, this displacement factor can release the major amount of the retained liquid and some solids. Improved design of catch basins and better operational and maintenance practices could reduce this first-flush pollutional effect.<sup>1</sup>

The most important contributor of pollutants to urban runoff is the land surface itself, primarily the streets and gutters and other impervious areas directly connected to streets or storm sewers. Pollutants accumulate on these surfaces in a variety of ways. There are, for example, debris dropped or scattered by individuals; sidewalk sweepings; debris, fertilizer and pesticides deposited on or washed into streets from yards and other indigenous open areas; wastes and dirt from building and demolition; fecal droppings from dogs, birds, and other animals, remnants of household refuse dropped during collection or scattered by animals or wind; dirt, oil, tire, exhaust, and detergent residue contributed by automobiles; and fallout of air pollution particles.<sup>2</sup> Pollutants build up on urban surfaces between rainstorms. Solids in the pollutant load build up most rapidly during the first 48 to 72 hours after a major rainfall. In a residential area, this build-up amounts to about 500 pounds of solids per mile of curb by the end of the third day. Accumulation rates decrease with time, reaching about 750 lb/curb mile after two weeks.<sup>3</sup>

The pollutant load entering the drainage system would increase in "urban" content while decreasing in "agricultural" content. In particular, vehicle-related contaminants would replace cultivation-related contaminants.

The proposed stormwater pollution control measures are more stringent than those in effect throughout most of the Bay Area. If stronger measures are required as a condition of approval, these could be incorporated during the project design stage. Unless the areas around the marina are maintained as public land it is unlikely that fertilizer and pesticide controls could be imposed. It is also unlikely that car washing restrictions could be imposed other than prohibiting that activity on public streets. Given these circumstances the two proposed mitigations relating to car washing and landscaping compounds have been deleted from the Final EIR/EIS.

320. Since both public and private marina facilities are proposed the responsibility for maintenance and enforcement would be subject to an agreement between the project sponsor and the City. The details of this agreement have not been worked out yet; however, it is recommended that the same special district which would be responsible for dredging, levee care and water quality monitoring be charged with maintaining and enforcing the marina and boating regulations. Central pumpout facilities located in the public marina would also be used by private marina residents. See also response to comment 1.

321. Project sponsor should be required to develop a water quality monitoring plan to detect and deal with water quality problems that occur once the project is built. This plan should indicate who will perform the monitoring and how it will be funded. It is recommended that post-construction monitoring could be made the responsibility of the same special district that would handle maintenance dredging and levee care. The plan should include provisions for notification of the Regional Water Quality Control Board. Although the project will primarily involve pleasure crafts, an oil spill contingency plan used for commercial vessels could serve as a model for developing a water quality plan.

At the current time no such plan has been developed.

322. The proposed spoils disposal area is currently used for dryland farming and is located in Exhibit II-7. Appendix III.B of the Draft EIR/EIS includes a description of a spoils disposal method which would include discharge of decanted water to adjacent waterways. It should be noted however, the dredging operations will not commence until 20 years after initial project construction.

323. Control of erosion during construction will include conducting all feasible construction on dry land, and admitting slough waters after the channels and basins are completed. This way, the erosion potential is limited to the opening of the stage when the waters flow into the newly completed work. The amount of erosion will be minimized and transitory, and the eroded material will largely deposit inside the project.

Excavation under water will be done by clamshell or by suction dredge discharging into a closed pond. Neither of these operations should cause significant increases in suspended solids.

Erosion of banks by waves is the most significant source of suspended solids in the project. Bank protection by rip-rap, bulkheads, or by plants will be necessary to control bank erosion.

As described in the Krone/RMA report, Water Circulation, Sedimentation, and Algae Growth in the Cullinan Ranch Project, management of dredged material will include batch sedimentation in specially designed ponds or excavations at the north end of the development, decanting the clear water to Dutchman Slough, allowing the sediment to dry, and either accumulating it or using it for construction and levee maintenance. It is planned that the decanting operation will take place during hours when the wind is slight, such as at night or during early morning hours so that waves do not suspend the deposited material. The batch mode facilitates control of the discharge, and decanting can be limited to the times that the suspended solids are acceptably low.

Water quality management is an ongoing endeavor. It will require attention of the organization that will be responsible for the maintenance of the development and education of the residents and boat owners. It is important at this stage to anticipate the needs for water quality management and to provide facilities that will most assure effective management.<sup>4/</sup>

Regarding bed erosion of Dutchman Slough: the channel was deeper before the adjoining marsh area was diked. The marsh flooded and drained through Dutchman Slough with each turn of the tide. It is unlikely that the channel was wider: levees are usually built on top of the adjacent marsh, not in the edges of the channel, because of the saving in earth moving.

The Cullinan Ranch project will increase the tidal prism that is supplied by the short reach of the slough between Napa River and the project, and the slough should deepen slightly as a result of the increased peak flows. There are several reasons to expect deepening, rather than widening. The channel is wide and shallow, with depths tapering toward its edges. The shear stress will be higher in the deeper portions than at the edge. The sides of the dikes are exposed at times down to lower-low water, and the soil there has lost moisture. Consequently, the levee soil is denser and stronger than the sediment on the bottom. Further, vegetation will reduce the velocities near the banks and thereby reduce the shear stress there.

Again, the Bel Marin Keys development provides an example. Prior to the construction of the dam, the lagoon enlarged the tidal prism that was supplied by the lower reach of Novato Creek. Currently the water is flushed to provide the maximum shear stress to clear out sediment. Cordgrass grows into the edge of the channel, and there is no evidence of erosion either by currents or by boat waves.

Please see response 234 for other discussion of channel stability and excavation techniques.

324. The Basic Wetlands Protection Policy was adopted by the California Resources Agency in 1977. Although it appears that the policy has not been officially rescinded or replaced with a new policy, its scope and nature is under review by the agency. Until this review has been completed, the question of the proposed project's compliance with the policy cannot be determined.

325. Comment noted.

---

<sup>1</sup>L.A. Roesner, "Quality of Urban Runoff" in Urban Stormwater Hydrology, Water Resources Monograph 7, D.F. Kibler, ed., American Geophysical Union, Washington, DC, 1982, page 166.

<sup>2</sup>Ibid., p. 167.

<sup>3</sup>Ibid., p. 175.

<sup>4</sup>Ray B. Krone, Ray B. Krone and Associates, Sedimentation and Tidal Hydraulics, letter to W.R. Williams, Inc., August 24, 1983.

## SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

30 VAN NESS AVENUE  
SAN FRANCISCO, CALIFORNIA 94102  
PHONE: 557-3686

C1



July 1, 1983

City of Vallejo  
Planning Department  
P. O. Box 3068  
Vallejo, CA 94590

AND

Mr. Scott Minor  
U. S. Army Corps of Engineers  
211 Main Street  
San Francisco, CA 94111

SUBJECT: Cullinan Ranch Draft EIR/EIS, BCDC Inquiry File No. SL. WY. 7016.1  
and DHB Site No. SL-16

Gentlemen:

Unfortunately one important paragraph was inadvertently omitted from our letter of yesterday to you. Please insert the following language on page 4, after the third line:

326 "This project would in itself decrease the agricultural waterfowl habitat by over 1000 acres. Fill for the extension of services is also likely to induce additional growth in the North Bay area which would further destroy fish and wildlife habitat on agricultural lands that are seasonal wetlands. We believe the relationship between these potential impacts and the Bay fill required to extend the urban services essential to this project must be more explicitly acknowledged and discussed in the EIR/EIS."

A revised copy of our letter is enclosed. Please substitute it for the copy sent to you yesterday.

Very truly yours

MICHAEL B. WILMAR  
Executive Director

cc: Torrey and Torrey  
U. S. Fish and Wildlife Service  
California Department of Fish and Game  
Attorney General

Enclosure

## SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

30 VAN NESS AVENUE  
SAN FRANCISCO, CALIFORNIA 94102  
PHONE: 557-3686



June 30, 1983

City of Vallejo  
Planning Department  
P. O. Box 3068  
Vallejo, CA 94590

AND

Mr. Scott Minor  
U. S. Army Corps of Engineers  
211 Main Street  
San Francisco, CA 94111

SUBJECT: Cullinan Ranch Draft EIR/EIS, BCDC Inquiry File No. SL. WY. 7016.1  
and DHB Site No. SL-16 (Corrected)

Gentlemen:

The staff appreciates this opportunity to review the EIR/EIS on the proposed Cullinan Ranch project. Our review has covered all aspects of the project which we believe will be of concern to the Commission. While these are staff comments only, they are based on Commission policy, as reflected in the McAteer-Petris Act, the San Francisco Bay Plan, and the Commission's recently completed Diked Historic Baylands Study.

Permits from the Commission will be required for various aspects of the development, and consequently, the staff believes the Commission will be vitally concerned about adequacy of the information contained in the EIR/EIS. In addition, the Commission is directly concerned about the impacts of the proposed project on diked historic baylands outside its jurisdiction because of the importance of these wetland resources to the Bay itself.

327  
328

Regrettably, the staff has concluded that the EIR/EIS is seriously lacking in information in several critical areas. It does not, in our opinion, fully describe the effects of the project on fish and wildlife resources, identify the mitigation measures that will minimize the adverse effects of the project, quantify the dredging requirement for the sloughs or the project basin, or describe a long-term disposal plan for dredge spoils. It also does not mention the generation of mud waves and does not provide data to support the conclusion that the growth-inducing effect of the project will not be significant.

City of Vallejo  
AND  
Mr. Scott Minor  
June 30, 1983  
Page 2

### Jurisdiction

329 BCDC permits will be required for several aspects of the project. First all dredging and any breaching of levees at the Napa River, Dutchman's and South Sloughs will require permits. Fill in the Bay for construction of highway improvements on Highway 37 both at the Cullinan Ranch frontage and between Sacramento Street and Route 29 will need Commission approval. Construction of utilities that cross the Napa River, such as gas, electric transmission, water and sewer lines need Commission permits, as will any utilities placed within 100 feet of the Bay along Highway 37. The proposed noise wall will be subject to permit requirements if it is within the 100-foot shoreline band. Finally, the marina basin and over-water marina facilities will need a permit if the levees are breached before all of the marina construction is completed.

330 We realize these statements regarding permit requirements for the basin are at variance with the statement in the EIR/EIS that the basin will be excavated "in the dry." However, because the EIR/EIS does not provide any technical data to support this method of construction, the staff must rely on its experience with sites of similar physical characteristics to make a determination. This site is on young Bay muds, and its soils are saturated and must be pumped to keep it dry even in agricultural use. The channels to be excavated are to be 10 to 20 feet deep. Sites with these characteristics usually will not support heavy excavation equipment and thus must be contoured using a clamshell or hydraulic dredge placed on a barge.

### Bay Fill

331 Fill in the Bay for utilities and for highway construction will be required as part of this project. Extensions of urban services such as major gas, sanitary sewer, water lines and electric transmission lines must occur to service this project and necessarily will involve fill in the Napa River. Widening of Highway 37 along San Pablo Bay and at White Slough is proposed to "mitigate" the effects of increased traffic from levels A, B, and C, to D and F levels.

The McAteer-Petris Act states in part that fill should only be authorized "when the public benefits from fill clearly exceed public detriment from the loss of water areas and should be limited to water-oriented uses...." The EIR/EIS should note that roads are not among the water-oriented uses identified in the Act, and the Commission has not in the past authorized fill in the Bay for this purpose.

City of Vallejo  
AND  
Mr. Scott Minor  
June 30, 1983  
Page 3

The EIR/EIS should also note that policies of the Bay Plan state that "The surface of the Bay and the total volume of water should be kept as large as possible. Filling...that reduce(s) surface area and water volume should be allowed only for proposed projects providing substantial public benefits and only if there is no reasonable alternative." In this case, expanding the existing road system from two-lane roads to four and six lane arterials is likely to require substantial fill, probably in excess of 40 acres. The "public benefits" to be provided by this fill are not clearly identified.

332

It is true that the construction of a marina as part of the Cullinan Ranch project would result in an increase in Bay surface area, and normally, an increase in the tidal prism would be beneficial. In this particular case, however, critical agricultural wildlife habitat is being destroyed by this water area. Since the EIR/EIS does not include the results of the habitat survey, the staff cannot determine whether the benefits of creating a marina basin will offset the effects of the highway fill. Detailed surveys of marina basins with their particular value to migratory waterfowl, as well as an analysis of the need for new water habitat in the midst of salt pond habitat, need to be included in the EIR/EIS before the Commission can make a determination on the benefits of the new water surface area.

333

Fill for highway use could also have an effect on public access in that any new development in or on the Bay must provide maximum feasible public access in order to be approved by the Commission. Access in the form of bicycle and pedestrian paths is usually provided when highway construction occurs adjacent to the Bay. No public access has been proposed as part of the highway project.

334

Fill for the extension of urban services could significantly affect the Bay by inducing growth in diked wetland areas that are important to the Bay. The Commission recently completed a two-year study of diked historic baylands, areas that, although diked, "are part of the San Francisco Bay estuary." The report found that "The diked historic baylands have particularly significant seasonal wildlife value for migratory birds that also use the tidal waters of the Bay.... If the diked baylands were significantly altered or reduced in area, it would diminish the role of the Bay complex as a primary resting point for migratory waterfowl; inevitably, migratory bird populations would suffer." Further, the report specifically identified the diked agricultural lands as being critical to Bay wildlife. "The large expanses of agricultural land located in the North Bay provide critical seasonal habitat for migratory waterfowl and shorebirds during the winter. This large area of unmanaged habitat, even though it remains in agricultural use, serves a similar function as managed wetlands because it is a single habitat unit, with some ponds, some dry areas, some area providing food, some cover and some shelter. Conversion to urban uses of small parcels within the unit adversely affects the ability

City of Vallejo  
AND  
Mr. Scott Minor  
June 30, 1983  
Page 4

of the entire area to support significant numbers of wildlife, and thus has a significant adverse effect on the fish and wildlife resources of the entire Bay region."

339

This project would in itself decrease the agricultural waterfowl habitat by over 1000 acres. Fill for the extension of services is also likely to induce additional growth in the North Bay area which would further destroy fish and wildlife habitat on agricultural lands that are seasonal wetlands. We believe the relationship between these potential impacts and the Bay fill required to extend the urban services essential to this project must be more explicitly acknowledged and discussed in the EIR/EIS.

#### Marshes and Mudflats

340

The project will require breaching of levees between Dutchman's and South Slough to permit the construction of 150-300-foot-wide channels. This could result in significant destruction of marshes and mudflats. The EIR/EIS does not include a quantification of the amount of marsh that would be destroyed or whether or not mitigation for this impact is proposed. Issuance of a permit for loss of this marsh would be difficult since the Commission's policies state that marshes and mudflats should be maintained to the maximum possible extent and that loss of these resources should be offset by creation of new marsh or enhancement of existing marsh.

#### Dredging and Hydrology

341

The assessment of hydrologic and sediment production impacts are inadequate because the preferred project alternative requires excavation of a bottom area 50 percent greater than that modeled in the RMA/Krone report. Furthermore, field measurements of both current and suspended solids concentration were not collected to check the models. Additional hydraulic modeling using field tested models and current development plans (Alternatives A and B) should be performed. A field sampling program should be conducted before and during the construction period to determine baseline conditions and detect potential water quality problems. This information on sedimentation is essential so that a quantification of dredging requirements can be determined. The annual sedimentation rate will also be needed by the Commission since BCDC recreational policies do not allow approval of marinas at sites that tend to fill with sediment rapidly. The information on currents is needed so that the Commission can determine whether or not a marina will meet the Commission's policies on recreation which state "No new marina...should be approved unless water quality and circulation will be adequately protected...."

City of Vallejo  
AND  
Mr. Scott Minor  
June 30, 1983  
Page 5

Fish and Wildlife

342

The EIR/EIS is not adequate with regard to the analysis of impacts of the project on wildlife because the survey contracted to determine effects is not yet completed. Nor has an analysis of the habitat value of the site been conducted. However, the report concludes that these as yet to be determined effects can be mitigated at some time in the future after an analysis of the habitat value is completed. The Commission will be unable to evaluate the effects of the project until after those studies are complete and included in an EIR/EIS.

343

This project is strategically located between the Napa Marshes and the San Pablo Bay Wildlife Refuge. It has been designated as of critical importance to migrating waterfowl and shorebirds by the U. S. Fish and Wildlife Service, the California Department of Fish and Game and the Commission's report on diked historic baylands. Rare and endangered plants may be found on the site according to the environmental report.

344

Based on the above studies and the importance of the North Bay for wildlife and pursuant to the findings and policies of the San Francisco Bay Plan and the report on Diked Historic Baylands, the staff believes that substantial mitigation will be necessary. Specific proposals that include the purchase and dedication of agricultural areas to replace those destroyed by the project or restoration of a tidal area to compensate fully for lost habitat should be included in the EIS/EIR so that the Commission can evaluate the public benefits of the project.

345

Bay Fill for Infrastructure

The EIR/EIS is inadequate because it does not discuss the amount of fill in the Bay that will be required directly or indirectly as a result of the project. The EIR/EIS should quantify the amount of fill required for docks and other marina facilities, for extensions of service, for widening of roads or for public access.

Development on Diked Historic Baylands

Although the houses and commercial uses in the project will not require a BCDC permit, their construction could affect the Bay, and we believe the Commission will wish to bring these potential effects to the attention of the Corps of Engineers and the City in the course of their reviews of the project. Thus, the staff has evaluated the development on the basis of the policies of the Diked Historic Baylands Report adopted by the Commission.

City of Vallejo  
AND  
Mr. Scott Minor  
June 30, 1983  
Page 6

The policies on Baylands state that in diked historic baylands, agricultural uses "should be maintained as long as feasible. Feasibility should be determined by evaluating both the economic viability of the agricultural use of the parcel alone and as a larger agricultural unit. If agricultural use is economically viable in either circumstance, a change in use should not be permitted."

The EIR/EIS concluded that this site is a viable agricultural parcel. It yields 1.5% of the hay needed by the North Bay dairy industry and 6.7% of the locally produced hay. The parcel has been farmed by the same farmer for the last 30 years and is currently economically feasible as a hay/oat farm.

346 Because these agricultural operations are compatible and indeed essential to wildlife resources of the Bay and because they are economically viable on the Cullinan Ranch parcel, we believe the EIR/EIS should explicitly acknowledge that the proposed development would be inconsistent with the Commission's findings and policies on diked historic baylands.

#### Recreational Use

Baylands policies state that maximum feasible public access to and along the perimeter of baylands should be provided. The staff is unable to determine whether the project meets this policy, especially since the EIR/EIS states that recreational uses will be eliminated by the project. It also states however, that new park uses and pedestrian access will be provided.

347 In order for the staff to evaluate the public access benefits of this project, it will need information on how many acres of public access presently exist on the site as specified in the agreement between the developer and the State Lands Commission. The EIR/EIS should contain a legible map showing its location. It should also state the acreage and location of the additional areas that will be made available to the general public as a result of the project. If this project eliminates existing recreational uses and does not provide continuous access along the perimeter of the baylands or generous in-lieu access, the Commission may find it difficult to recommend approval of a permit application made to the Corps of Engineers.

#### Development on Young Bay Muds

Diked historic baylands policies state that "Development should not present a hazard to persons or property due to flooding, potential liquefaction, or strong ground motion during earthquakes."

City of Vallejo  
AND  
Mr. Scott Minor  
June 30, 1983  
Page 7

348 The study recommended by Harding and Lawson Associates should be conducted at this time and be included in the EIR/EIS to determine the feasibility of crust management excavation, the need and impacts of using imported fill on the site, the strength characteristics of bay mud, the lateral and vertical deformations of lagoon sands and dikes that would occur during large earthquakes, the site response and ground shaking at the foundation level during large earthquakes, and the necessary building setbacks from lagoon banks and dikes. (It is also possible that the Commission's Engineering Criteria Review Board will wish to review this project because of the possibility that mud waves will be created in the Commission's jurisdiction if structures are placed on fill close to the edge of a bank.)

349 Growth Inducing Effects

As we noted previously, the EIR/EIS needs to deal in much greater depth with the degree to which this development will make it more difficult for critical diked wetland areas in the North Bay to remain in agricultural use. Among other things, the EIR/EIS should address the economics of agriculture on similar parcels in the area, the degree to which urban development on this parcel can be expected to drive up land values and encourage subdivision on surrounding parcels, the impact of urban development on agricultural services necessary for continued agricultural use, and the compatibility of proposed urban uses with the continuation of existing agricultural uses.

350 Alternatives

As a responsible agency, the Commission will be relying on this environmental document. In order to do so, the Commission needs the information mentioned above included in the EIR/EIS. It also needs information on alternatives that would have less impact on San Francisco Bay. In this regard the staff would recommend that the EIR/EIS analyze (a) other locations for this project that would provide similar economic benefits to the City of Vallejo; or (b) an alternative that contemplates public purchase and leaseback to agricultural interests or purchase in fee or of an easement of these areas not developed, as has been suggested by the Waterfowl Association. The purchase of easements in this area was apparently explored by the USFWS recently.

If this information is not provided at this time and the developer submits an application to the Commission for a permit, a new environmental report that includes this information may need to be prepared. This would

City of Vallejo  
AND  
Mr. Scott Minor  
June 30, 1983  
Page 8

cause unnecessary delay for the developer. Therefore the Commission staff strongly urges that the EIR/EIS be revised prior to the City approving it or taking any action on this project.

Very truly yours,



MICHAEL B. WILMAR  
Executive Director

cc: Torrey and Torrey  
U. S. Fish and Wildlife Service  
California Department of Fish and Game  
Attorney General

**LETTER # S-6**

326. See response to comment 72.

327. The effects of the proposed project on fish and wildlife resources have been described in more detail in the Final EIR/EIS. Harvey and Stanley Associates yearlong wildlife monitoring program (Appendix IV.L) also includes a discussion of the potential impacts to fish and wildlife resources. See also the Vegetation and Wildlife section as well as response to comments 45, 46, 47, 50, 51, 52, 53, 54, 55, and 288.

328. Appendix IV.B of the Final EIR/EIS indicates that flows in adjacent sloughs will increase and so the project will not induce increased sedimentation in them. The Appendix includes an estimated sedimentation rate of 0.5 feet/year in the project channels and a description of a possible spoils disposal method.

The concerns raised in this comment about fish and wildlife and dredging are discussed in the revisions to the text in sections F and E. See also response 1.

329. Comment noted and included in section D "Policy Context" chapter of the Final EIR/EIS on page 23.

330. Please see response 234.

331. Fill in the Bay for utilities and highway construction will not be required as part of the project. Utility lines crossing the Napa River would be installed on the Napa River Bridge, and would only be extended underground after they reach the project site. Highway widening would not be done on the Bay side of Highway 37. The widening of a state highway is under the jurisdiction of Caltrans, and would have to pass through the Caltrans permitting and approval process before work could begin.

332. The results of Harvey and Stanley's yearlong monitoring program are summarized in the Vegetation and Wildlife section of the Final EIR/EIS. The complete report is included as Appendix IV.L. In a response to comments sent to W.R. Williams, Inc. (Sept. 20, 1983), Harvey and Stanley Associates responded to this comment. The following is quoted from their response.

"The marinas chosen around the bay have varying utilization by wildlife particularly by migratory waterfowl. Those species seen most commonly include the American coot, common goldeneye, double-crested cormorant, Forster's tern, gulls, mallard, grebes, ruddy duck, and egrets. Far less utilization was seen by canvasback, scaup, bufflehead, and pintail . . . Overall the opportunity for utilization by waterfowl is high, though reduced by a variety of factors. Boat traffic will reduce utilization, but this reduction is temporary. Additionally, most of the marinas associated with housing developments around the bay have only limited tidal action, with water levels controlled by tide gates or locks. The proposed marina at Cullinan Ranch would have far higher use for shorebirds, due to the new mudflats to be exposed at low tide. Of course the use is not immediate as time would be required for the establishment of benthic infauna.

"The value of the open water of the marina to species which now inhabit the Napa marshes and salt ponds is a selective matter. It is likely, based on our surveys, that American coots, ruddy ducks, double-crested cormorants, Forster's terns, common and snowy egrets, and a variety of shorebirds will benefit. Scaups were seen in fair numbers, and may utilize areas of the proposed marina. Canvasback and pintail are less likely to use the area as are shoveler, wigeon, and scoter. There will also likely be increases in species not common in the area now, particularly in the mallard, which adapt well to man's proximity.

"Hunting activity affects the distribution on a short term basis of waterfowl in the salt ponds with heavier utilization of ponds with no hunters. The addition of hunter-free areas provided by the marina may prove to benefit additional species."

A complete description of the results of Harvey and Stanley Associates marina surveys can be found in Appendix IV.L, pages 57-62.

333. The proposed project will include a widening of Route 37 adjacent to the project site with such widening occurring within project property. The Final EIR/EIS suggests additional widening of Route 37 (between the project and I-80) as mitigation for cumulative impacts. Any such widening would have an effect on public access to baylands as well as the various impacts associated with the filling of baylands.

It is noted that all of the potential impacts of Route 37 widening will be considered in environmental studies performed for that project. The issue of public access would be

assessed as a part of the environmental studies. Similarly, Caltrans would examine the effects of the widening projects relative to the filling of baylands. Also, see response to Comment 10.

334. Comment noted. Please see response to comments 49, 197, and 300 for further discussion of this matter.

335, 336, 337, 338. Error in numbering - please continue to 339.

339. Comment noted. Please see response to comments 49, 88 and 144 regarding growth inducement. For information on the amount of fill required to extend the urban services essential to this project, see section III.E. in the Final EIR/EIS.

340. Comment noted. Potential impacts to wildlife resulting from the proposed levee breach along Dutchman Slough have been discussed in response to comment 288. According to Harvey and Stanley Associates (1983), the dike separating the Cullinan Ranch from Dutchman and South Sloughs would be breached to provide tide gates upon the completion of Phases C, D, E, F, and G. These five breaches would be located at the west end of each of the areas, and would entail burying pipes in the levee. Each breach is expected to have a lifetime of 3-5 years. Considering the diameter of the pipes to be laid (72 inches), the number of pipes to be laid (8), and the excavation requirements for placing such pipe, there would be a minimum of 50 feet of disturbance linearly along the slough for each breach of the dike. Since there is a sequence of five breaches proposed, a minimum of 250 feet of levee habitat would be disturbed in total with 50 feet disturbed at a time.

It is unlikely that there would be complete natural revegetation of the dike during the interim period while the pipes are in place, although it would be possible to plant the disturbed area on a temporary basis to provide limited cover and erosion control. There would be an estimated period of 5-6 years (possibly more) when the 50-foot levee break would be a disturbed habitat. When the development is complete, however, there would be additional disturbance in removing the pipes. After removal it would then be possible to encourage the establishment of natural vegetation along both sides of the levee on a permanent basis.

341. Although Alternative A, proposed project, would have a channel bottom area 50% greater than that modeled in the Krone/RMA report, tidal flow into the project is estimated to be about the same. If the entire channel system was constructed at one time, the sedimentation rate would be expected to be less than that predicted by Krone/RMA because a similar amount of sediment would be distributed over a larger area. Krone/RMA recommend that soundings be taken at intervals in the first channels to be constructed in order to improve prediction of sedimentation rates and dredging needs.

342. The yearlong wildlife monitoring program conducted by Harvey and Stanley has been completed. Their final report is included in the Final EIR/EIS (Appendix IV.L). A summary of their report has been inserted into the Vegetation and Wildlife section.

343. Comment noted.

344. Comment noted. Substantial mitigation will be necessary if the project is developed. Currently, the only proposed mitigation considered adequate by the Department of Fish and Game (Carper, pers. comm.) is the 30 acres of tidal marsh proposed along the levee (see response 300). The other on-site mitigation proposals for wildlife habitat are considered to have little or no mitigative value (e.g., dredge spoils disposal site).

345. Please see response 25.

346. The text of the Final EIR/EIS has been revised to indicate the relationship of the project to the Diked Historic Baylands Study.

The proposed project is inconsistent with the policies of the diked bayland study since it would convert agricultural land and permit the extension of urban services into diked baylands.

347. At the current time there are 30.7 acres of public access on the project site. This consists of two 2½-acre parking areas owned by the state; two public road easements connecting the parking areas to State Route 37; and a 19-foot-wide public water access easement on the dike along the entire northerly boundary of the property adjacent to Dutchman Slough. These areas of public access are shown in Exhibit III-2(a) in the Final EIR/EIS.

In addition, the map shows new public access areas (893.5 acres total) and those interruptions that will occur if the project is developed.

The proposed project will involve changes to the current public access. In breaching the levee to create the marina, the roadway easement on the easterly portion of the project site will be interrupted. To mitigate this impact the developer has two options. First, the developer can install a roadway bridge across the mouth of the marina. The installation of such a bridge is consistent with the existing Boundary and Exchange Agreement with the State Lands Commission. The second option is for the developer to amend the Boundary and Exchange Agreement to allow an interruption of the easement. In exchange, the developer would offer to improve the public water access easement or provide some other commensurate public benefit. Such an amendment would require approval of the State Land Commission. The developer is currently negotiating with the Commission staff and has not decided which mitigation option to pursue.

348. Crust management excavation is already a proven method and has been successfully used nearby at both Mare Island and Port Sonoma. The purpose of a test excavation is not to prove feasibility, but only to assist the contractor in evaluating the peat/groundwater conditions to be encountered in actual excavations.<sup>1</sup>

Please see response 39 and the Geotechnical Appendix for discussion and outline of proposed geotechnical studies at the project site.

349. See response to comment 72.

350. Alternative E has been included in the report as a scaled down version of the project. See response to Comment 103 and page 10 of the text.

With regard to other locations, the City of Vallejo has determined that there are no suitable alternative sites for a marina-oriented project of comparable size.

As far as other sites in the North Bay area outside the City, county policies, regulation constraints and title questions would preclude a comparable development in the area.

The public purchase alternative has been considered but not included in the Final EIR/EIS because it is not considered feasible, since no public agency appears to have the necessary

funding. The developer has indicated he would sell the property if a fair market value offer were received.

---

<sup>1</sup>Dennis H. Furby, CE 24480, Harding Lawson Associates, letter to W.R. Williams, Inc., August 26, 1983.

TO: SPNPE-TE



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
215 Fremont Street  
San Francisco, Ca. 94105

Edward M. Lee, Jr.  
District Engineer  
San Francisco District, Corps of Engineers  
211 Main Street  
San Francisco, California 94105

JUL 18 1983

Dear Colonel Lee:

The Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Report/Draft Environmental Impact Statement (DEIR/DEIS) titled CULLINAN RANCH, CITY OF VALLEJO. We have the enclosed comments regarding this DEIR/DEIS.

We have classified this DEIR/DEIS as Category ER-2. Definitions of the categories are provided by the enclosure. The classification and date of EPA's comments will be published in the Federal Register in accordance with our public disclosure responsibilities under Section 309 of the Clean Air Act.

We appreciate the opportunity to review this DEIR/DEIS. Please send four copies of the Final Environmental Impact Report/Final Environmental Impact Statement (FEIR/FEIS) to this office at the same time it is officially filed with our Washington, D.C. office. If you have any questions, please contact Loretta Kahn Barsamian, Chief, EIS Review Section, at (415) 974-8188 or FTS 454-8188.

Sincerely yours,

*for* *William Murray*  
Charles W. Murray, Jr.  
Assistant Regional Administrator  
for Policy, Technical, and  
Resources Management

Enclosures (2)

## Waste Water Treatment Comments

The DEIR/DEIS presents two conflicting statements regarding sewage treatment for Cullinan Ranch. On p. 16, the DEIR/DEIS states that "Sewer plant capacity over and above prior commitments...is anticipated to be sufficient for construction of Alternatives A and B." However, on p. 141, the Gobar Analysis concludes that "The treatment process at the Sanitation District treatment plant is currently being upgraded to correct existing problems but the upgrade will not provide capacity for any of the proposed alternatives..."

**351** The Vallejo Sanitation and Flood Control District (VSFCD) operates a physical-chemical treatment plant which was designed to meet secondary standards of 30 mg/l biochemical oxygen demand and 30 mg/l suspended solids. This plant has never operated correctly for any length of time and, even when operating as designed, has not been able to meet secondary standards. The VSFCD plans to add biological filters to its treatment plant and abandon the activated carbon system. It has proceeded with design of this modification with its own funds, but hopes to receive construction grant funding for the construction phase. The plant also has problems with wet weather overflow of raw sewage. The VSFCD is currently studying this problem, as directed by the Regional Water Quality Control Board (RWQCB). On completion of this study the RWQCB will determine appropriate wet weather requirements.

In light of these problems, the FEIR/FEIS should clearly document whether or not the treatment plant has the current capacity to serve Cullinan Ranch under Alternatives A and B; whether expansion would be required; and in either case, whether the required secondary treatment standards would be met. If the plant cannot handle the Cullinan Ranch project, the FEIR/FEIS should address other sewage treatment alternatives.

## Water Quality Comments

We note the following deficiencies in the Water Quality and Sedimentation discussions:

- 352** 1. The RMA/Krone study link-node model analysis for residence times assumes a channel depth of -10 feet MLLW, when the initial channel depth will actually be -20 feet and in some places -30 feet. Residence times should be estimated using appropriate channel depths factoring in project construction phases.
- 353** 2. No water quality parameters other than phytoplankton (and sedimentation) were included in the RMA/Krone analysis. Other water quality parameters such as dissolved oxygen, nutrients, temperature and salinity are assumed not to be significant problems. This assumption is predicated on adequate tidal circulation which, as discussed in the

DEIR/DEIS, is questionable, especially during earlier project phases. A comprehensive water quality analysis should be performed for this project, for all alternatives.

- 354
3. The DEIR/DEIS does not adequately address the project's applicability under the Clean Water Act, 40 CFR 112. A Spill Prevention Control and Countermeasure Plan is required for aboveground storage of a single tank of more than 660 gallons or an aggregate of more than 1,320 gallons, and for underground storage of more than 42,000 gallons. This plan includes measures to prevent a spill from occurring, which is different from the oil spill contingency plan (40 CFR 109) referenced in the DEIR/DEIS (p. 40), which is for spill clean up. The FEIR/FEIS should address both of these requirements for the project alternatives.
- 355
4. Impacts to waters adjacent to the project lagoon (Dutchman and South sloughs, the Napa River and San Pablo Bay) are not sufficiently addressed. This is particularly important for fisheries and wildlife resources dependent on maintenance of water quality. Water quality standards and beneficial uses (including fisheries and wildlife) for the Napa River should be addressed.
- 356
5. It is not clear that mitigation measures recommended by the consultant will actually be adopted and implemented by the developer. Long term, on-going responsibility for monitoring and protection of water quality in the development and adjacent surface waters should be explicitly clarified and plans for implementation included.
- 357
6. In many cases the DEIR/DEIS points out that additional studies and analysis should be done to determine project impacts. The results of these studies should be included in the FEIR/FEIS. The following are examples of additional work recommended:
- a. Further model simulations should be conducted to evaluate the effectiveness of tide gates in the various project phases for each alternative.
  - b. A field sampling program should be conducted in Dutchman and South sloughs for pre-development baseline conditions to provide more specific data for detailed water quality analyses.
  - c. A field sampling program should be conducted to determine suspended solids in the sloughs to determine sedimentation rates.

- d. For Alternative C, water quality modeling studies should be performed to investigate dissolved oxygen or algal bloom problems. Also, a sedimentation analysis should be conducted to determine anticipated sedimentation rates, disposal requirements and disposal sites.

Such analyses for Alternative C should be performed for the FEIR/FEIS in order to meet NEPA requirements regarding adequate impact assessment for all alternatives (1502.14).

Many of the above recommendations for additional analysis were mitigation measures recommended by the consultant. It is not appropriate that analysis needed to assess impacts in the environmental document itself be considered as mitigation. With so much additional analysis required, the DEIR/DEIS cannot adequately determine project impacts and necessary mitigation measures. If information is lacking to assess impacts, a worst case analysis must be performed as required by NEPA (40 CFR 1502.22).

7. The statement on p. 2 regarding a waiver of Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements and Water Quality Management Plan requirements should be explained. The FEIR/FEIS should discuss the waste discharge and plan requirements being referred to, and the waiver justification.
8. Regarding dredging and sediment disposal requirements the DEIR/DEIS does not provide a rationale for the assumption made on p. 43 that "since this bottom area is 50 percent larger than that used in the RMA/Krone study, the total sediment volume can also be expected to be about 50 percent larger." 358a
9. Disposal of dredged sediments is not adequately addressed. The DEIR/DEIS states that "At this point [reversion of the disposal site to marsh wildlife habitat] some other disposal alternative will be required," and that "an additional 117.5 acres is potentially available for Alternative B in the open space wetland." The FEIR/FEIS should identify "some other disposal alternative" and discuss the appropriateness and impacts of using the 117.5 open space wetland as a disposal site. 358b
10. The DEIR/DEIS states that erosion of channel banks should not cause significant impacts "as long as the channel banks are reasonably stable. This should not be a problem for Alternative C..." There is no discussion of Alternatives A or B, nor is there a definition of "reasonably stable" banks (in terms of water quality, vegetation and fisheries impacts). 358c

11. With regard to construction related sedimentation impacts the DEIR/DEIS states "If appropriate mitigation measures are implemented... impacts should be reduced to an acceptable level." This is not a very reassuring statement. Appropriate mitigation must be committed to by the developer and acceptable level of impacts defined.

#### 404 Comments

- 359 1. Section III-A (Land Use) of the FEIR/FEIS should provide further details regarding alternative sites, including the potential for in-fill development within the City of Vallejo, that would satisfy the projected housing requirements of the Housing Element of the City's General Plan. This section of the DEIR/EIS is critical to the 404 permit review in determining whether practicable alternative development sites exist which do not involve filling in waters of the United States.
- 360 2. The biological assessment referenced on p. 68 should be included in the FEIR/FEIS and incorporated into the impact analysis.
- 361 3. On p. 3 the DEIR/DEIS refers to a final field investigation to determine wetland areas. The results of this investigation should be incorporated into the FEIR/FEIS. EPA will use this information in making a 404 permit evaluation.
- 362 4. The DEIR/DEIS indicates that level of service (LOS) F will result from this project and that mitigation will include coordinating project phases with capacity improvements on S. R. 37 and other streets. The FEIR/FEIS should address the indirect impact of the project on adjacent wetlands as a result of these roadway capacity improvements.

#### Air Quality Comments

1. The proposed project is located within the San Francisco Air Basin which is currently designated nonattainment for ozone; the absence of ozone violations in the vicinity of the project does not obviate the need to consider the project's contributions to regional ozone violations.
- 363 The document further projects no CO violations as a result of the project. However, information on the modeling inputs appears to conflict with predicted traffic impacts, i.e., that the project will contribute to conditions on
- 364 S. R. 37 equivalent to LOS F while the modeling only assumes worst case intersection speeds of 10 mph. The project

relies for mitigation on highway improvements which are as yet uncommitted and does not provide any direct commitment to mitigate traffic impacts before they occur.

**365** Finally, the project does not appear to consider cumulative growth occurring within the Vallejo "sphere of influence," but only holds that the growth forecast to result from the individual project will not exceed the growth projected in the air quality plan. This approach could easily allow numerous such projects to claim consistency while their combined effect greatly exceeds levels allowed by the air quality plan. The City of Vallejo needs to address the project's relationship to cumulative growth in the area.

2. Table III-10 (P. 103) contains several errors, as follows:

- 366**
- a. Under "Averaging time" for suspended particulates, the word "mean" should appear on the same line as "geometric" while "24 hours" should appear on one line.
  - b. The Standard of  $470 \text{ ug/m}^3$  shown for  $\text{NO}_2$  (1-hour) is the California Standard, not the Federal secondary standard.
  - c. The Federal 24-hour standard for  $\text{SO}_2$  is  $365 \text{ ug/m}^3$  not 565.
  - d. For  $\text{SO}_2$  (24-hour), the figure "131" should appear in the California column, not under Federal secondary.

## EIS CATEGORY CODES

### Environmental Impact of the Action

#### IO—Lack of Objections

EPA has no objection to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

#### ER—Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to reassess these aspects.

#### EU—Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

### Adequacy of the Impact Statement

#### Category 1—Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

#### Category 2—Insufficient Information

EPA believes that the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

#### Category 3—Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft impact statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.

**LETTER #F-1**

351. Please see response 251.

352. Residence times were recalculated taking account of the depths noted. See Krone/RMA addendum report in Appendix III.B of the Draft EIR/EIS.

353. At no time would residence times be greater than 10 days. (See Appendix III.B of the Draft EIR/EIS). Thus, Krone/RMA conclusions regarding the other water quality parameters measured remain valid.

354. Agree. A spill prevention, control and countermeasure plan will have to be prepared. This plan will contain measures to prevent spills in addition to clean measures should a spill occur.

355. Water quality objectives for the Napa River are included in the State of California's Water Quality Control Plan for the San Francisco Bay Region. Because the proposed development will be connected to the municipal sewer system no separate discharge of wastewater will occur. The development will, of course, be a diffuse source of pollutants which may affect water quality. The scale of the impacts relative to the impacts of other pollutant sources in the vicinity (City of Vallejo and Mare Island runoff and wastewater discharges) is expected to be insufficient to effect the attainment or otherwise of water quality objectives.

356. Please see response 320 and 321.

357. Further model simulations were conducted to evaluate Alternative A and different tide gate locations. The results are reported on in the addendum to the Krone/RMA report in Appendix III.B. Additional water quality monitoring is proposed as a mitigation measure. The monitoring is needed less to make more precise the initial estimate of impacts than to provide a warning of changing conditions during and after construction that might require remedial action.

358a. This is an error and the text is altered accordingly. Because tidal flow into the larger system is expected to be similar to the modeled condition then the total sediment input will also be similar.

358b. See Section III.C. of the Final EIR/EIS.

358c. Please see response 1.

359. Numerous other residential sites exist in the City of Vallejo that would contribute to the housing requirements in the General Plan. See response 142.

However, none of those sites would accommodate a marina-oriented community since they are primarily upland sites.

360. The Corps of Engineers Biological Assessment as it pertains to Section 7 of the Endangered Species Act is included in the Final EIR/EIS Appendix. A summary paragraph of the Biological Assessment has been included in the text of the Vegetation and Wildlife section on page 73.

361. The Corps final field investigation report on Section 404 jurisdiction has been incorporated into the Final EIR/EIS Appendix. Results of the investigation have been summarized in the Vegetation and Wildlife section of the Final EIR/EIS.

362. See responses 10 and 311.

363. Potential project impacts on ozone concentrations are discussed on page 105 of the Final EIR/EIS. The present increase in emissions of non-methane hydrocarbons and nitrogen oxides, the pollutants which lead to ozone formation, are shown in Table III-13 in the Final EIR/EIS. Since the greatest increase, as represented by Alternative C, would be .3% of regional totals it is unlikely that measurable increases in ozone would result.

364. The CO impacts which would result from a peak hour traffic speed of 5 mph were calculated in response to the comments of the Bay Area Air Quality Management District.

365. The Air Quality Plan is based upon emissions projections which allow for a certain degree of cumulative development. Each project EIR/EIS would be required to evaluate its impact in terms of "using up" a portion of the allowable development. This discussion appears on page 108 of the Final EIR/EIS. After the allowable growth occurs, additional projects would be inconsistent with the Plan.

366. The appropriate corrections have been made to Table III-10 (page 103).



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE

Southwest Region  
300 South Ferry Street  
Terminal Island, CA 90731

F/SWR:33:PL

Lt. Colonel Edward M. Lee, Jr.  
District Engineer  
San Francisco District  
Corps of Engineers  
211 Main Street  
San Francisco, CA 94105

Dear Colonel Lee:

The National Marine Fisheries Service (NMFS) has reviewed the Draft Environmental Impact Statement for the Cullinan Ranch Specific Plan, City of Vallejo, Solano County, California (May 1983). In order to provide as timely a response to your request for comments as possible, we are submitting our comments (enclosed) to you directly, in parallel with their transmittal to the National Oceanic and Atmospheric Administration (NOAA) for incorporation in the NOAA response. These comments represent the view of the NMFS. The formal, consolidated views of NOAA should reach you shortly.

Sincerely yours,

Floyd S. Anders, Jr.  
Acting Regional Director

Enclosure





**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE

Southwest Region  
300 South Ferry Street  
Terminal Island, CA 90731

F/SWR33:PL

Lt. Colonel Edward M. Lee, Jr.  
District Engineer  
Corps of Engineers  
San Francisco District  
211 Main Street  
San Francisco, CA 94105

Dear Colonel Lee:

The National Marine Fisheries Service (NMFS) has reviewed the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Cullinan Ranch Specific Plan in the City of Vallejo, California (May 1983).

The Specific Plan includes construction of a 1500-acre residential development with lagoons and 1700 boat berths on Cullinan Ranch, as well as commercial or light industrial development of the 53-acre Guadalcanal site southeast of Cullinan Ranch. The study area, bordered on the south by Highway 37 and on the north by Dutchman and South Sloughs (tributaries to the Napa River and San Francisco Bay), was tidal marsh land historically and is potentially restorable to tidal action (EIR/EIS, pages 52 and 68). We are providing the following general and specific comments under the authority of the National Environmental Policy Act (NEPA) and Fish and Wildlife Coordination Act (FWCA).

**367** General Comments

We believe that the Draft EIR/EIS does not address completely the primary and secondary adverse impacts of the proposed project on fish habitat and fishery resources. In addition, the measures proposed to mitigate adverse effects and replace habitats lost with the project are inadequate and poorly defined. The NMFS believes that the Draft EIR/EIS contains insufficient information to evaluate the proposed project. We recommend that a Revised Draft EIR/EIS be prepared which contains the following information:

- 368** 1) A more complete description of all conceptual design features for each project alternative,
- 369** 2) More thorough evaluations of primary and secondary project impacts following biological monitoring
- 370** that is to be concluded in the summer of 1983,



- 370 3) Specific descriptions of adequate mitigative and compensatory features to minimize adverse impacts on existing and potential fishery resources in the lagoon, as well as to replace the loss of historical, potentially restorable marsh land, and
- 372 4) Further analysis of alternative sites, project scopes, and design and mitigative features (for example, off-site mitigation, if necessary).

373 Specific Comments

Biological Studies. Complete evaluation of project impacts on fishery resources is not possible; ongoing biological monitoring (fish sampling in Dutchman and South Sloughs) will not be completed until the summer of 1983 and additional mitigation measures may be recommended upon conclusion of these studies (page 68, Appendix D, page V-1). In addition, the wetland field investigation (to comply with Section 404 of the Clean Water Act) had not been completed as of the date of the Draft EIR/EIS (page 3).

374 Dredging Impacts. Although the Draft EIR/EIS states that dredging the entrance channel would remove dense marsh vegetation in Dutchman Slough (page 71), the report does not quantify the potential loss; it should do so. The text is inconsistent in its description of the proposed entrance channel; the channel is described as 250 feet wide (at 0 feet, Mean Lower Low Water, MLLW) on page 30 and 333 feet wide on page 31. Additionally, the report does not state clearly whether construction of the marina/lagoon (with access to San Francisco Bay via Dutchman Slough and the Napa River) would require dredging a channel in Dutchman Slough to its confluence with the Napa River (page 45, Appendix B, page 32). If so, the revised or final EIR/EIS should clarify this aspect of the project design and quantify any resulting loss of marsh vegetation, intertidal mudflat, or shallow, aquatic habitat in Dutchman Slough and Napa River.

375 The draft report should describe the impacts of maintenance dredging in the marina/lagoon on marsh vegetation, benthic invertebrates, and fish that would become established in the proposed lagoon. NMFS is also concerned that maintenance dredging, if required in Dutchman Slough or the Napa River, could have a significant, long-term impact on fish habitat (i.e., marsh vegetation, mudflats) in these waterways. The final report should address any such maintenance dredging in these waterways as well as any resultant biological impacts.

NMFS supports the proposal to monitor sedimentation rates in Dutchman and South Sloughs for a year in order to estimate more accurately maintenance dredging requirements in the lagoon (page 45). NMFS believes that such monitoring should occur before approval of project construction since the quantity and frequency of maintenance dredging affect the impacts of these activities on fishery resources. If such monitoring will not be completed prior to project construction, the Draft EIR/EIS should discuss impacts assuming worst-case conditions.

376

Disposal Impacts. The draft report identifies two potential dredged material disposal sites: (1) the 88-acre site at the far northwestern end of the project (Alternatives A and B), and (2) the 117-acre site adjacent to the above site (Alternative B only) (page 44). Although both sites are described in sections of the report as restored tidal marsh with the project (pages 44 and 70), it appears that the first site (88 acres) could be filled to +23 feet (30-year capacity, Appendix B, page 38), and therefore, its future habitat value is questionable. The second site (117 acres), first described as a tidal marsh (mitigative feature, pages 8-10), is subsequently described as a second, potential disposal site (page 44). The final report should clarify the project design for these two sites. Since a disposal site will be required for the "life of the project," the NMFS recommends that one of the sites (for example, the 88-acre site) be described as a long-term disposal site and that mitigation occur elsewhere in the study area (for example, the 117-acre site).

Although the report states that the 88-acre site could accommodate dredged material for 30 years, the report also states that peat, excavated from the lagoon areas (to a depth of -15 feet, page 53), could be placed at the disposal site (page 60). The final report should specify the disposal site for the excavated peat.

377

Boating/Water Quality Impacts. The Draft EIR/EIS states that values for water quality parameters in the proposed 424-acre lagoon will not exceed criteria in the San Francisco Bay Water Quality Control Plan (page 39); however, the water quality modeling studies were based on channel depths in the lagoon that were 10 feet shallower than proposed and channel widths narrower than proposed (page 35). (Initial dredging of the lagoon to a depth of -20 feet MLLW would provide a source of fill material for the proposed development.) We are concerned that these errors could result in adverse impacts on water quality, particularly in terms of dissolved oxygen, temperature, and algal production. The revised report should evaluate the water quality impacts of each alternative, using the water quality model described in Appendix B and actual design features (i.e., -20 foot MLLW depth).

378a

NMFS is also concerned that the addition of 1700 boats in the proposed lagoon and adjacent waterways would adversely affect water quality through fuel spills, boat maintenance and sewage disposal. NMFS supports the recommendations in the text to minimize potential impacts, including the suggestion to reduce the number of berths (pages 31, 40 and 41). Additionally, treatment of mosquitoes in marsh areas near the proposed residential area could require use of toxicants in adjacent marsh areas (and possibly the lagoon) and adversely affect water quality (page 73).

378b

Wave action generated by 1700 boats in the proposed lagoon and adjacent waterways may increase erosion of marsh vegetation present in Dutchman Slough and the Napa River, as well as that to be planted in the proposed lagoon. Any such losses of marsh vegetation from boating (and from potential subsequent bank protection) should be addressed thoroughly in the revised report.

379 a

Engineering/Design Impacts. The proposed lagoon (Alternatives A and B) is expected to triple or quadruple flows in Dutchman Slough (page 35), but the Draft EIR/EIS concludes that this modification of flows would not be significant (page 35). NMFS is concerned that increased flows in Dutchman Slough would erode marsh vegetation along its banks and modify the fish community structure (refer to preliminary fish sampling results, Appendix D). These potential impacts should be addressed more thoroughly in the final EIR/EIS.

379 b

Initially, the proposed lagoon (Alternatives A and B) would be dredged to a depth of -20 feet (MLLW) with subsequent sedimentation (over a 20-year period) to a "final, design" depth of -10 feet (MLLW) (page 34). Generally, the banks of the lagoon would have 4 horizontal : 1 vertical slopes below Mean Sea Level (MSL) and 5:1 slopes above MSL (page 34). Dredging to a depth of -30 feet (MLLW) in portions of the lagoon would destabilize the lagoon banks (page 56). Dredging to a depth of -20 feet (MLLW) would cause slope instability during earthquakes (page 56). The report recommends shallower slopes and depths of -10 feet instead of -20 feet, as well as adequate setbacks for developed areas (page 57). Stable slopes would minimize the potential for bank failure, bank reshaping, and bank protection measures (i.e., bulkheads or riprap) in the proposed lagoon (page 57). If such bank protection were required, it would have secondary adverse impacts on aquatic habitat and marsh vegetation on the banks of the lagoon, whereas shallower slopes would increase the intertidal habitat in the lagoon (a mitigative feature). We believe that shallower depths (i.e., -10 feet, MLLW) would provide an aquatic habitat with higher value for estuarine fish than the proposed depths of -20 feet (MLLW). Therefore, NMFS recommends modification of the depths and slopes as suggested in the Draft EIR/EIS (page 57).

380

The Draft EIR/EIS states that the source of imported fill material for the proposed project (estimated at 13.2 million cubic yards) has not been identified (page 53). However, dredged material from maintenance of Mare Island Strait has been suggested as a potential source of such material (Appendix A, page 19). Fill material should be obtained from an upland source or from maintenance dredging of navigation channels to minimize adverse impacts on fishery resources. For example, NMFS has generally recommended against dredging shallow aquatic or marsh habitats to obtain fill material. We encourage the applicant to pursue the alternative source of material suggested in Appendix A (page 19). The final EIR/EIS should define the source of fill material and any associated biological impacts.

381

Traffic Impacts. It appears that by the year 2005, the capacities of Highway 37, between Wilson Street and Route 29 (crossing White Slough), and Sacramento Street, between Highway 37 and Redwood Street, would be exceeded with the project (Table III-6, page 88). Without the project, these roadway capacities would not be exceeded. NMFS is concerned that widening Highway 37 from a 2-lane to a 6-lane arterial over White Slough would require placement of fill material in tidal wetlands in White Slough. Likewise, expansion of Sacramento Street, which borders the White Slough

382 wetland area, may also require placement of fill in this area. The revised or final EIR/EIS should address the secondary impacts of roadway improvements on wetland habitat and fishery resources.

383 Miscellaneous Impacts. The proposed project would require construction of a sewer line and a water supply line across the Napa River (pages 116 and 117). The secondary impacts of such construction on fishery resources and supporting habitats in the Napa River are not addressed in the draft report, but should be.

384 Mitigation. The draft report acknowledges the loss of about 1500 acres of historical, potentially restorable marsh habitat (page 68). As mitigation for this loss, Alternatives A and B include restoration of intertidal marsh and mudflat habitat on the banks of the proposed lagoon (80 acres with Alternative A and 254 acres with Alternative B, page 70). The report should clarify whether reconstruction of the levee and, consequently, removal of marsh vegetation on the slough side, would be necessary (pages 57 and 74). Without such clarifications, it is difficult to evaluate the adequacy of measures to mitigate or compensate for adverse project impacts. We do not believe that the project, as presently proposed, would mitigate adequately all adverse impacts, particularly the loss of 1500 acres of historical wetlands, which are restorable to tidal action. NMFS strongly supports measures recommended in the Draft EIR/EIS to further evaluate habitat losses and develop modified project alternatives (page 74).

385 Alternatives. Based on the present design features associated with each alternative project and existing and potential fishery resources, NMFS ranks the alternatives from most to least preferred as follows:

- 1) Alternative D - No Project (Continuation of farming with eventual restoration of 1500 acres to tidal action),
- 2) Alternative B - Reduced Project (702 acres of residential commercial development, 424 acres of open water, and 367 acres of open space and wetlands),
- 3) Alternative A - Project as Proposed (820 acres of development, 424 acres of open water, and 250 acres of open space and wetlands), and
- 4) Alternative C - General Plan Alternative (871 acres of development, 360 acres of open space, and 254 acres of open water).

The revised draft EIR/EIS should address further the need for the proposed project and its alternatives. The draft report is inconclusive; it appears that alternative, upland housing sites are available in the City of Vallejo. However, the report indicates that none of these sites has the water-oriented features of the proposed site (page 20). The report should examine further the need for housing and the development potential for truly water-oriented activities (i.e., navigation) in the study area.

The NMFS believes that the project, as proposed, could result in significant, long-term adverse impacts on fishery resources for which NMFS is responsible and that the project is precedent-setting. In fact, the Draft EIR/EIS states that this project could encourage the secondary development of 4400 acres of historical marsh in Marin and Sonoma Counties (pages 49-50, 151). Accordingly, the NMFS objects to the project, as proposed, and we intend to refer this project to the Council on Environmental Quality, if the issues that we have raised in our review of the Draft EIR/EIS are not resolved satisfactorily before circulation of the revised or final EIR/EIS.

NMFS staff is available to work with all concerned parties to reach such a resolution of these issues. If you wish to contact us further on this matter, please direct comments to Ms. Paget Leh at the National Marine Fisheries Service, 3150 Paradise Drive, Tiburon, CA 94920; telephone (415) 556-0565.

Sincerely yours,



Floyd S. Anders, Jr.  
Acting Regional Director

**LETTER #F-2**

367. Comment noted. Potential adverse impacts of the proposed project on fish habitat and fishery resources are discussed in response to comments 50, 51, 54, 105, 106 and 299. Also see the Vegetation and Wildlife section of the Final EIR/EIS for summaries of Harvey and Stanley Associates (1983) impacts and proposed mitigation measures for fish. Their final report is included in the Final EIR/EIS as Appendix IV.L.

368. The conceptual design is described in the Alternative section of the Final EIR/EIS and in the Cullinan Ranch Specific Plan which is available for inspection at the City of Vallejo Planning Dept.

369. For a discussion of the biological monitoring that took place in 1983 see the revised Vegetation and Wildlife section of the Final EIR/EIS.

370. A summary of potential impacts of the project has been included in the Vegetation and Wildlife section of the Final EIR/EIS. This includes summaries of Harvey and Stanley Associates (1983) impacts and proposed mitigation measures for fish. Their final report is included in the Final EIR/EIS Appendix, IV.L.

371. Mitigation measures to minimize the adverse impacts on fishery resources are suggested by Harvey and Stanley Associates (1983). In summary, they suggested: 1) Imposing a 5 mph speed limit in the sloughs to help to reduce bank erosion and habitat disturbance along the interior of the levee and outboard of the existing levee along Dutchman and South Sloughs. 2) Controlling boat access to the smaller sloughs to reduce the potential for disturbance. 3) Regarding dredging, ensuring that dredging activities do not occur during the time that juvenile fishes (striped bass, tule perch, splittail, staghorn sculpin, yellowfin goby, American shad, starry flounder) utilize the salt marsh and slough. 4) Instituting a water quality monitoring program to help detect problems early, before adverse effects on aquatic organisms were realized. 5) Regular flushing of the proposed development by controlled tidal action to aid in maintaining good water quality.

372. For discussion of new Alternative E see the revised Final EIR/EIS, page 10.

For discussion of alternative sites, see response to comment 141.

373. The yearlong biological monitoring program conducted by Harvey and Stanley Associates is now complete. Their final report is included in the Appendix and summarized in the Vegetation and Wildlife section of the Final EIR/EIS. Also see response to comment 371.

374. With regard to channel width, the text on page 30 has been corrected to indicate width at -10.0 feet MLLW and at 0.0 feet MLLW. There would be no dredging in the Napa River or the slough.

375. The suspended solids concentration assumptions used in the sedimentation analysis are believed to be conservative and are therefore probably close to a worst case. If worse case were defined as comparable to conditions in parts of the Bay known to be subject to severe sedimentation then the sedimentation rate might be 25% higher than that predicted.

376. The EIR/EIS consultant agrees that the 88-acre site at the northwest end of the project should be designated as a long-term dredge disposal site and that mitigation for loss of marshland should occur elsewhere on the project area.

377. Additional modeling studies were undertaken by Krone/RMA taking account of the factors mentioned. The results with respect to the attainment of the water quality objectives contained in San Francisco Bay Water Quality Plan do not change.

378a.. The waterways created as part of the development are not expected to be attractive to breeding mosquitos.

378b. Please see response 1 and Section III.B. of the final EIR/EIS.

379a. Velocity of flow would increase by a factor of 3 or 4 if the cross-section remained constant. However, it is almost certain that the channel will gradually deepen to accommodate the larger flows under the with-project condition so the increase in velocity will be less than the stated. As stated on page 35 of the Final EIR/EIS, some sediment will be prevented from accumulating in the channels due to the increased velocity.

379b. It would be impractical to build channels with an initial bottom elevation of -10 feet (MLLW) because maintenance dredging would be needed within 2 or 3 years of construction.

380. Please see response 25.

381. See response 333.

382. If roadway improvements are necessary (e.g., along Sacramento Street), adverse impacts to wildlife habitat and fishery resources may result. The City of Vallejo is

planning to widen Sacramento Street between State Route 37 and Redwood Street to four lanes (Final EIR/EIS, page 84). Widening may require the placement of fill in White Slough which borders Sacramento Street. Any filling of sloughs would cause sedimentation which could have adverse impacts on fish, including loss of habitat. Any reduction in water quality caused by road improvements could affect aquatic resources, including fish and benthic infauna.

Filling of other wetland areas would destroy wildlife habitat. If State Route 37 is widened, impacts to the San Pablo Bay National Wildlife Refuge would result unless the area is avoided in its entirety and precautions are taken to avoid accidental "spills" of fill or other construction materials onto Refuge property. In addition, secondary impacts to wildlife may occur due to increased automobile traffic in a high use wildlife area. Increased traffic subjects terrestrial wildlife to increased changes of road-kill.

383. It has been suggested (Final EIR/EIS, page 116) that a sewer line be installed on the Napa River Bridge connecting the proposed development to a 24-inch sanitary sewer interceptor in Wilson Street. If the sewer line is attached to the bridge, as the developer is now proposing, no impacts to wildlife or fishery resources should occur. If, however, the pipe is installed across the Napa River, impacts to fish and benthic organisms would occur during the construction phase; habitat disturbance and increased turbidity would result.

384. Comment noted. The Final EIR/EIS suggests as a mitigation measure (page 74, paragraph 2) that the existing levee areas be preserved intact due to the possibility that rare or endangered plant and animal species may be present. According to Harvey & Stanley Associates (1983), the shrub/levee habitat that exists at present would be undisturbed, except for the marina opening and temporary breaks in the levee for installing tide gates on the western end as the various areas are developed. If the shrub/levee habitat has restricted access, as at present, and vegetation is allowed to

establish on the interior (slough side) of the levee, its wildlife habitat value would be increased.

Regarding the adequacy of mitigation measures proposed, please see response to comments 197, 300, 453, and 468.

385. The comment raises questions about the need for the project and whether alternative upland housing sites are available. See responses 141 and 142.



UNITED STATES  
DEPARTMENT OF THE INTERIOR

OFFICE OF THE SECRETARY

PACIFIC SOUTHWEST REGION  
BOX 36098 • 450 GOLDEN GATE AVENUE  
SAN FRANCISCO, CALIFORNIA 94102  
(415) 556-8200

ER 83/682

JUL 7 1983

Colonel Edward M. Lee, Jr.  
District Engineer, San Francisco District  
Corps of Engineers  
211 Main Street  
San Francisco, California 94105

Dear Colonel Lee:

We have reviewed your draft environmental statement for Cullinan Ranch Specific Plan, Solano County, California. The following comments reflect considerable concern about project-related change in land use, adverse environmental impacts, and completeness of the draft Impact Statement. The no-action project alternative is recommended.

General Comments

The Fish and Wildlife Service (Service) reports that the draft EIR/EIS provides an accurate description of the proposed project and discussion of some of the anticipated impacts on matters within the Service's area of expertise. However, there are several important issues not adequately analyzed, owing primarily to the lack of existing data or the failure to study certain aspects. These concerns are addressed under Specific Comments.

The Service strongly recommends the selection of Alternative D, (the no project alternative) because it is the only plan presented in the draft EIR/EIS that would not result in significant adverse impacts to fish and wildlife resources, both on the Cullinan Ranch site and on adjacent lands of extremely high biological value. These adjacent lands include the San Pablo Bay National Wildlife Refuge to the south and the Napa River marshes and the Leslie Salt Ponds to the north and west. The proposed project (Alternative A) and Alternatives B and C call for the development of a large residential-marina community and industrial/commercial complex in an area with virtually no existing development other than agriculture. We believe that the location of these facilities and the influx of large numbers of people on a permanent basis (between 11,000 and 25,000 persons, assuming 2.5 persons per residence) will have significant adverse impacts on the wildlife

resources. Beside the obvious direct loss of habitat that would result by reason of structures and paved surfaces, we anticipate significant secondary impacts. These include impacts to wildlife species that are intolerant of human intrusion, harassment of wildlife by domesticated animals, degradation of habitat from pesticide and herbicide use and secondary development for human conveniences or services. We believe that these types of conflict are inevitable when residential developments are located next to marsh areas and/or open spaces.

As mentioned in the EIR/EIS, development of the Cullinan Ranch project would preclude the option to restore the site to tidal action. The Service believes this option should be retained, because approximately 90% of the historical wetlands in California have already been lost through conversion to other land uses and because the proposed project, with the exception of the marinas, does not require a location that is close to water. We believe the development of residential units and the proposed commercial/industrial facilities are neither a prudent nor appropriate use of these lands. It has been the Service's experience with projects in similar areas that regardless of well intentioned mitigation plans, that fish and wildlife resources are often compromised.

386  
386 a  
386 b

The Service has consistently sought protection of wetlands because of their high ecological values. Wetlands provide an important source of nutrients that are utilized at the lower trophic levels and then passed upwards through the food chain. Marsh vegetation has also been shown to play an important role in removing pollutants from the air and water, and producing oxygen. More obvious is the value of wetlands as habitat for many species of wildlife including migratory waterfowl, that are of special concern to the Service. Filling of wetlands on the ranch site, filling of the drainage ditches and swales, and excavation of the levee and its adjoining marshes would result in significant land character destruction.

386 c

The proposed dredging of Dutchman Slough and the associated impacts have not been adequately described in the draft statement. In fact, the main document's only reference is the recommendation that Dutchman Slough be dredged. It is stated in Appendix I (Item II.3.a.), "The Dutchman Slough channel will be dredged." We have serious concerns that dredging may adversely impact the high valued tidal marsh fringing both sides of Dutchman Slough. This area has been identified in the draft recovery plans by the Service as essential habitat for the endangered salt marsh harvest mouse and California clapper rail.

387 a

At numerous places, the draft EIS/EIR states that a complete impact analysis regarding endangered species and wildlife in general is not possible until ongoing or proposed studies are completed. To provide full public review of these issues, as required under NEPA regulations, the results of these studies should be included at the draft stage. Because these results are not provided in the current document, we believe a supplemental draft is warranted. NEPA regulations are clear on the point that all pertinent issues and potential impacts must be thoroughly discussed and available for agency and public consideration.

387 b

Attaching the Biological Assessment for endangered species and the final results of other biological studies to the final EIS without having included them in the draft EIS will not provide full public review.

Specific Comments

388 a Page 4, para. 2. The statement that "...formal Section 7 consultation has been initiated with the Fish and Wildlife Service" is inaccurate. The only official correspondence from the Corps to the Service concerning endangered species issues is an undated letter from the Corps (received by the Service on August 30, 1982) requesting a list of endangered, threatened, proposed and candidate species that occur in the project area. The requested list was provided, indicating endangered species may occur in the project area. Following completion of the Corps' Biological Assessment, formal consultation, pursuant to Section 7 of the Endangered Species Act, may be required.

388 b Page 9. The dredged spoil site is described as having the potential for eventual development into wetlands. While we do not disagree that it is possible, we believe it is highly unlikely because maintenance dredging requirements will not cease, nor will the need for a spoil area close to the dredging site. Reference to the disposal area as "potential wetlands" should be deleted.

389 Page 22, para. 2. Comment is the same as above, although the word "marsh" is used in place of "wetland".

390 Page 31. Expansion of the Dutchman Slough entrance channel from 250 feet to 330 feet at 0.0 feet MLLW has been recommended to reduce boating congestion. Construction of the marina entrance at its presently proposed location would result in the destruction of high value tidal marsh. Widening the entrance would increase this loss. The conflict in mitigating both boating congestion and wetland losses should be stated here.

391 Page 35, para. 3. It is stated that peak tidal flow velocities in Dutchman Slough will increase by a factor of 3 to 4 and that this is advantageous from a sedimentation standpoint. While higher water velocities may prevent sedimentation in Dutchman Slough between the marina entrance and the Napa River, these same conditions may allow higher sediment loads to be transported and deposited in the lower velocity areas of Dutchman Slough and the proposed lagoon system.

392 Page 36, para. 1. Tide gates are to be relocated toward the northwest end of the lagoon at the completion of each phase (beginning with phase 3 and ending with phase 7). The anticipated impacts to wetlands and associated wildlife at these five locations have not been addressed. The connection to South Slough is described as consisting of "eight 72-inch corrugated metal pipes 100 feet long" (Appendix III.B.7.). The affected areas, including distribution channels should be described in detail.

Page 37, para. 2. According to the document, dissolved oxygen levels in the Napa River are generally above 5 mg/l. The range of recorded dissolved oxygen levels should also be provided as well as the duration and frequency that the lower extremes occur.

393

Page 37, para. 3. We agree that dissolved oxygen levels tend to increase with water transparency during daylight hours. However, at night or during cloudy periods, phytoplankton respire (i.e., remove oxygen) and if present in sufficient numbers, may cause the dissolved oxygen levels to drop to near zero. This should be mentioned.

Page 39, para. 3 & 4. The RMA/Krone study is referenced and the conclusion is drawn that the dissolved oxygen levels "should generally remain above 5 mg/l." Apparently this conclusion is based on the estimated residence time for complete flushing to occur within the lagoon and on the major assumption that phytoplankton growth will be light limited. It has been our experience that water clarity often increases in the deadend channels or lagoon arms.

Water clarity along with high water temperatures (shallow areas are extensive in the lagoon), and sufficient nutrients (high nutrient levels are recorded in the Napa River) typically results in phytoplankton blooms.

394

Page 45, para. 2. We note that the dredging of Dutchman Slough has been recommended to provide sufficient boating depth at low tide. No details, however, are given, either to the need or to the magnitude of the project. The Service has serious concerns because of the high fish and wildlife values in and along Dutchman Slough.

395

Page 62, para. 3. The tidal marsh, mudflats and open water habitat are described as being located outside the project site. We disagree. The proposed marina entrance and portions of the tide gate system are located in tidal marshes. It also appears that some undetermined amount of dredging will be required in Dutchman Slough for boating access to and from the Napa River and thus, affect both open water and mudflat areas. We believe the "project site" must include all areas that will be directly impacted by the proposed action, regardless of ownership.

396

Page 64, para. 5. The report states, "During 1982-83, the site remained free of standing water...". We believe this statement is incorrect or at least needs to be qualified. Service staff on two occasions during the spring of 1983 observed either standing water or several areas which showed evidence that water had ponded.

397

Page 68, para. 5. According to this document, "all of the impacts on vegetation and wildlife for Alternatives A, B and C cannot be determined until a full year of field investigations are completed." This is overly optimistic. We doubt that such a determination can be made with as little as one year of field data owing to natural population fluctuations and variations in usage. It should be noted that the current studies are being conducted only a few times each month and may be too infrequent to document wildlife species that use the Cullinan Ranch for only a portion of their life requisites. In addition, we understand that night surveys were not added to the monitoring program, as was recommended by the Service. These are essential to document waterfowl use in the agricultural fields. Finally, we note that little effort by the applicant's consultant has been made to document fish and wildlife use in areas adjacent to the Cullinan Ranch, i.e., the San Pablo Bay National Wildlife Refuge and the Napa marshes. We believe that the biota in these adjacent areas will be significantly impacted by the proposed development, i.e., the nearby intrusion of 11,000 to 25,000 persons.

398

Page 73, para. 1. Impacts to the candidate salt marsh yellowthroat are inappropriately discounted. This species is highly dependent on marsh vegetation (as indicated in Appendix III.D.) and thus could be adversely impacted by habitat destruction required by construction of the marina entrance and tidegates along Dutchman Slough. We also envision potential adverse impacts to the endangered California clapper rail, discussion of which was not included in the DEIS.

399

Page 73, para. 4. If poor water quality conditions occur within the lagoon or marina, adverse impacts to aquatic organisms here and in adjacent waters may result, and not just merely a reduction in benefits on the immediate project site, as the document suggests.

The discussions and the conclusions drawn in this chapter (Vegetation and Wildlife) are based almost entirely on the Harvey and Stanley Associates' studies, and fail to include other sources of pertinent information. Among the information that should be used and presented are:

399 b

1. San Pablo Bay waterfowl counts (San Pablo Bay National Wildlife Refuge data),
2. Fishery data indicating that the Napa marshes are an important rearing area for juvenile Dungeness crabs and a spawning area for a number of species of fish (Bay-Delta Study, California Department of Fish and Game),
3. Napa Marsh Data, including shorebird and waterfowl use (California Department of Fish and Game).

Comments-Appendices

Appendix III B (Water Circulation, Sedimentation, and Algae Growth in the Cullinan Ranch Development Project)

400

The issue concerning the disposal of dredged material is important to the Service because of the potential to adversely impact fish and wildlife resources. Unless adequate provisions are made and extend throughout the life of the project, fish and wildlife resources are often compromised because of the claim of economic hardship. There are several assumptions made in the RMA/Krone study that may result in the underestimate of land needed for spoil disposal. The sedimentation rate is estimated at 0.5 feet per year even though peak velocities in Dutchman Slough are projected to increase 3 to 4 times over existing conditions. "The evaporation rate from the mud surface is expected to be 0.9 times the pan evaporation rate" (page 37). It has been our experience that the evaporation rate (mud) is often considerably less. As a consequence, the disposal site may be insufficient in size and the effective life of the disposal area shortened, especially if the periodic removal of dried material is found to be too expensive.

In addition, it has been assumed that "the supernatant will be aerobic and should have very low suspended solids contents so that discharge either within the project or into South Slough would not be objectionable" (page 37). We are concerned that strong winds, typical for this area, may interfere with settling. This should be addressed in the final EIS.

Appendix III. D. Vegetation and Wildlife

401

This appendix contains only preliminary reports that have been developed on field data collected over a span of 6 months. According to the Harvey and Stanley Associates February, 1983 interim report, "Conclusions and planning recommendations have been reserved for the most part for our final report" (page V-1). Although the final report will incorporate the findings from data collected over one calendar year, we do not believe that it is adequate for the analysis of anticipated fish and wildlife impacts for a project of this magnitude. Population levels fluctuate and the wildlife use of a specific area tends to vary from year to year.

402

We note that a trapping program designed to document the presence of the endangered salt marsh harvest mouse was scheduled for the spring of 1983. However, no findings or results have been provided. It is also apparent that no California clapper rail studies are ongoing or proposed even though Dutchman Slough is identified as essential habitat in that species' draft recovery plan. We point out that because of the rail's secretive nature, special census techniques are required to adequately determine its status in the area. It is not possible to combine a clapper rail census with the Emlen census procedure that is currently being used to census other bird species in the project area.

403

404

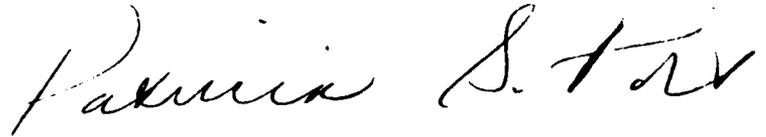
The analysis of bird use at other marinas has not provided much insight into the degree of conflict between wildlife and boating use. According to the preliminary report, "During the censuses to date, only one boat was recorded in use, and one class of sail-surfers." The fishery data is also quite sparse, essentially limited to a list of species. Potential impacts due to water quality problems, higher anticipated velocities in Dutchman Slough and maintenance dredging have not been discussed.

405

406

The information presented in the preliminary reports is insufficient for an adequate analysis of the impacts to the fish and wildlife resources on and adjacent to the Cullinan Ranch site.

Sincerely,



Patricia Sanderson Port  
Regional Environmental Officer

cc: Reg. Dir., Fish & Wildlife Service Attn: ARD-Habitat Resources, 500 N.E. Multnomah Street, Portland, Oregon 97232

Office of Senator Pete Wilson, Attn: Sandra Dentinger, P.O. Box 36004, San Francisco, CA 94102

North Bay Task Force, Attn: Sue Smith, Rm. 34, 728 Montgomery Street, San Francisco, CA 94111

State Lands Commission, Attn: Dave Plummer, 1807 13th, Sacramento, CA 95814

Director, California Department of Fish and Game, 1416 Ninth Street, Sacramento, CA 95814

Regional Manager, California Department of Fish and Game, Region III, P.O. Box 47, Yountville, CA 94599

Refuge Manager, San Francisco Bay National Wildlife Refuge, P.O. Box 524, Newark, CA 94560

Field Supervisor, Endangered Species Office, 1230 "N" Street, Sacramento, CA 95814

California Waterfowl Association, Attn: Dan Chapin, 1026 Market Street, San Francisco, CA 94102

Director, OEPR (w/copy incoming)

**LETTER #F-3**

386a. Comments noted. A fifth alternative, E, has been added to the Final EIR/EIS. Alternatives E proposes development of Phases A, B, C, and D but would not develop Phases E, F, and G at the western end of the property. Also see response to comments 45, 46, 48 and 55 regarding potential impacts of the project to waterfowl and other wildlife.

386b. Comments noted. Please see response to comment 88 and Appendix IV.F regarding the Cullinan Ranch Boundary and Exchange Agreement. According to the project proponent (Neuhausen pers. comm.), the proposed project is not responsible for eliminating the potential to restore the site to a productive salt marsh habitat. Such a decision and action has already been taken (see above Agreement).

386c. Comments noted. The high ecological values of wetlands are recognized (see response to comment 198).

387a. Comment noted. According to Harvey and Stanley Associates (1983), the proposed project would result in the excavation of deep navigation channels (-20 feet MLLW or more) throughout the project area and the removal of a 350-400 foot-wide section of the present levee to create the entrance to the marina. Dredging or widening Dutchman Slough to its confluence with the Napa River is not expected to be necessary. If Dutchman Slough were dredged, it could eliminate much of the tidal marsh that presently exists along the slough and impact endangered species and their habitat as stated by the commentor.

Dredging will be necessary in the interior channel of the project in order to maintain channel depth for boat travel and water flow for flushing. Dredging probably would commence 20 years after project initiation and continue on a 5-year cycle for the life of the project. Maintenance dredging may have adverse effects on benthic infauna, fish habitat, and water quality unless protective mitigation measures were implemented.

387b. These references to the Draft EIR/EIS refer to the year-long biological study undertaken by Harvey and Stanley and Associates. While that study was still ongoing at the time the Draft EIR/EIS was circulated for public review it has since been completed and their final report is included as Appendix IV.L. See also the revised Vegetation and Wildlife Section of the Final EIR/EIS for a summary of the study.

388a. See addition to page 4 of the Final EIR/EIS (Endangered Species Act).

388b. Reference to the dredge spoils site as "potential wetlands" has been deleted due to the need for a spoils area on a long-term basis.

389. Reference to returning the disposal area to marsh has been deleted.

390. This conflict in mitigating both boating congestion and wetland losses has been added to the Final EIR/EIS in the Marina Design and Function section (Mitigations).

391. The higher velocities in Dutchman Slough will result in some adjustment to the channel cross-section to accommodate the higher flows. Sediment resuspended by exiting tidal flows will be carried out of the slough and into the Napa River. Sediment resuspended on the incoming tide would be deposited in the project channels and the upper reaches of the slough.

392. Harvey and Stanley Associates (1983) (Appendix IV.L, pages 112-114) discusses the potential impacts of breaching the dike for the marina opening and tide gates. The following is quoted from their report.

"The dike separating the Ranch from Dutchman Slough and South Sloughs would be breached to provide the main entrance to the marina, and temporarily breached to provide tide gates upon the completion of Phases C, D, E, F, and G. These five breaches would be located at the west end of each of the areas, and would entail burying pipes through the levee. Each breach is expected to have a lifetime of 3-5 years. Considering the diameter of the pipes to be laid (72 inches), the number of pipes to be laid (8), and the excavation requirements for placing such pipe, there will likely be a minimum of fifty feet of disturbance linearly along the slough for each break of the dike. It is unlikely that there will be complete natural revegetation of the dike during the interim period while the pipes are in place. Temporarily, it would be possible to plant the disturbed area to provide limited cover and erosion control. At the end of the development phase, there will be additional disturbance in removing pipes. After removal, it would then be possible to encourage the establishment of natural vegetation along both sides of the levee on a permanent basis.

"There would, however, be an estimated period of 5-6 years (possibly more) when the levee break would be essentially a disturbed area. Such a disturbed area would have reduced wildlife use versus an undisturbed area, but would likely not disrupt movements of the majority of species which utilize the dike, as long as the pipes are covered with soil and some temporary plant cover is provided by properly timed plantings. House mice, voles, skunks, and other small mammals which now use the dike extensively will likely remain relatively unaffected. Those breaks which eliminate stands of bulrush will disturb potential nest sites of marsh wrens and other species, but not in significant numbers to be of major concern. Populations of the delta tule pea are scattered along the dike, in good numbers. Depending on the exact location of the breaks, areas D, F, and G are most likely to disturb the tule pea, the largest population and potential for disturbance at the opening for area G. While the Delta tule pea has no official protection, it is of special concern.

"Areas E, F, and G are within the range where small populations of salt marsh harvest mice were found. This situation is a bit more problematical as little is known of the habitat requirements of movements of this endangered species in such marginal habitats. The fact that they were found in a variety of mixed habitats suggests that they are not precisely limited to areas of pickleweed, and that they are likely moving through other types of habitat. In general, they adapt well to man's proximity, as long as suitable habitat for the protection of the existing population, and restoration of the levees, as well as any additional appropriate areas. The details of such mitigation should be developed in conjunction with the U.S. Fish and Wildlife Service and additional appropriate agencies as part of a wildlife restoration plan and program for the property."

393. The longest residence time predicted by Krone/RMA is 10 days. Krone/RMA believe that nuisance algae growth and oxygen depletion will not occur with this degree of circulation and that dissolved oxygen levels will remain above 5 mg/l. This conclusion is supported by experience at the similar Bel Marin Keys development.

394. According to Harvey & Stanley Associates (1983), dredging or widening Dutchman Slough to its confluence with the Napa River is not expected to be necessary (see response to comment 387a). See also the section of the Final EIR/EIS regarding dredging. As the commentor has pointed out, Dutchman Slough has high values to fish and wildlife resources. Dredging could have potential adverse impacts to a number of species and their habitat. If Dutchman Slough were dredged to provide sufficient depth for boats at

low tide (as recommended in the Draft EIR/EIS on page 45, paragraph 2), there would be a conflict with fish and wildlife resources. However, no dredging will occur in Dutchman Slough, according to the City of Vallejo (Merideth, personal communication).

395. Comment noted. Although the tidal marsh, mudflats and open water habitats are on the periphery of the Cullinan Ranch property, they are included as part of the environmental setting. Impacts resulting from the proposed project on these habitats also are discussed. Harvey and Stanley Associates (1983) studied these "peripheral" habitats as part of their yearlong monitoring program (see Appendix IV.L). Even though these habitats were not included in the definition of the project site, they have been analyzed.

Regarding the proposed dredging of Dutchman Slough, please see response to comments 387a and 394.

396. Comment noted. The wording on page 64, paragraph 5 has been changed. The Cullinan Ranch site has a very effective pumping system which minimizes the amount of seasonal ponding on the property. Harvey and Stanley Associates (1983) observed ponding on the Ranch immediately after heavy storms, but ponding was less extensive than on other agricultural tracts surrounding the Napa Marsh. It was observed that two to three days after a major storm, ponding on the Ranch has subsided (due to efficient pumping), while it continued for most of the winter on other agricultural tracts. If pumping operations were discontinued on the Cullinan Ranch, it would likely experience seasonal flooding similar to adjacent areas.

397. In a response to comments sent to W. R. Williams, Inc. (September 20, 1983), Harvey & Stanley Associates responded to this comment. The following is quoted from their response.

"Wildlife utilization of the Cullinan Ranch and vicinity is obviously a dynamic process, changing with seasons, with weather patterns, with planting schedules, and with yearly fluctuations in the population sizes of the various species which use the Ranch.

"In a sense, we agree with the Fish and Wildlife Service that much more could have been said regarding potential impacts of the project on fish and wildlife resources. There is indeed historical information available from a variety of sources, and we additionally provided data from nearly nine months of study. However, to stipulate that it is

impossible to anticipate potential impacts from only a year of data is another matter. There will naturally be certain unanswered questions, but many impacts can be anticipated from an understanding of the way in which animals utilize their habitats and the potential carrying capacity of the habitats. The utilization of carrying capacity and habitat as the basis of impact assessment in fact forms the basis of the Fish and Wildlife Service's Habitat Evaluation Procedure (HEP).

"One purpose of the yearlong monitoring study was to better understand the relationship of carrying capacity and habitat, on a site specific basis at Cullinan Ranch. To that end we initiated the ground transects which would incorporate the identified habitat types, and we have collected extensive data. Over the course of the preliminary study, the monitoring, aerial surveys, and trapping, we have spent over 100 man days on site during an 18 month period. We feel that this level of effort is sufficient to document the utilization of the property by any but vagrant or accidental visitors during this period. The numbers of birds utilizing flight corridors, salt ponds and the like will probably change from year to year, but the patterns of utilization should be similar in many respects.

"With respect to the night surveys and utilization of the surrounding areas of the Napa Marsh and San Pablo Bay, we made decisions regarding the most productive approaches and most efficient. On three separate occasions, night visits were made, but were not deemed an efficient use of time. That is, the data produced did not add significantly to our ability to assess the impacts of the project. Likewise, the use of radar monitoring, which would cover a wider variety of time frames, was discarded as not cost effective. Instead, a series of aerial surveys was initiated, and 18 flights accomplished over a 6 month period. This choice was made after surveying available literature and agency reports and discussing the nature of available data with the California Department of Fish and Game. Even though information regarding the species present and the yearly trends was available, little information was available regarding changes in abundance over the course of the year, differential utilization of upland areas and diked agricultural fields. These we felt were the key questions which needed additional data in order to assess the impacts of the project. Rather than "little effort" we feel that this represented a clear recognition of the importance of the Napa Marsh area and of the potential for impacts to the area in general.

398. Potential disturbance of nesting areas of the salt marsh yellowthroat should be of concern. Surveys by Harvey & Stanley Associates (1983), however, have shown no nesting

activity along the sloughs bordering Cullinan Ranch over the past two springs. Historically, nesting has been restricted to smaller sloughs in the northern end of the Napa Marsh. The mixture of reeds and low tangled vegetation preferred by yellowthroats is mostly along the margins of smaller channels (Foster 1977 in Harvey & Stanley Associates 1983). For non-breeding activity, Harvey & Stanley Associates (1983) suggested that the restoration of vegetation following dike breaches and the planting of inside levees with appropriate vegetation would be appropriate mitigation for any loss of habitat due to the permanent openings.

Although the California clapper rail was identified as a resident along portions of Dutchman, South, and China Sloughs (Gill 1979 in Harvey & Stanley Associates 1983), surveys by Harvey & Stanley Associates (1983) using taped clapper rail calls elicited only one response along Dutchman Slough. The individual was considered a non-resident (see Appendix IV.L, Page 96). Harvey & Stanley Associates (1983) concluded that clapper rails exist in low densities at best. Their historical presence along the sloughs and islands of the Napa Marsh and the designation of Dutchman and South Sloughs as critical habitat in the California Clapper Rail Recovery Plan, however, are considered important reasons by Harvey & Stanley Associates (1983) to address potential impacts from the proposed development on this species.

Harvey & Stanley Associates (1983) addressed two key areas of concern in their final report. The first was in the placement of temporary breaks in the dike for tidal gates, and their effects if nests were established in these areas. Over the course of the project, if the Recovery Plan is effective, nesting may occur along the sloughs in areas where there are currently no nests.

The second potential concern was in regard to the marina entrance breach and subsequent boat traffic through the entrance. If breeding clapper rails were present along Dutchman Slough, boat traffic through the channel opening may inhibit the movement of birds across the channel during the breeding season. The COE has initiated a formal Section 7 consultation with the FWS regarding the potential for the proposed project to impact threatened or endangered species such as the clapper rail.

399a. If there is a reduction in water quality due to implementation of the proposed project, several adverse impacts to aquatic organisms may result. See response to comments 50, 53, 54, 56, 106, and 291 for information regarding the potential impacts of a reduction in water quality on aquatic organisms.

399b. The Draft EIR/EIS did not include information from pertinent data sources; only Harvey & Stanley Associates interim reports were used as a biological data base. In their final report, Harvey & Stanley Associates (1983) utilized the data sources mentioned in the U. S. Fish and Wildlife Service's letter (Port pers. comm.) to provide background information.

Among the data sources used were: 1) waterfowl counts from the last eight years provided by the U. S. Fish and Wildlife Service; 2) The "Natural Resources of the Napa Marsh (Madrone Associates 1977); 3) the Preliminary Fish and Wildlife Plan for San Francisco Bay-Estuary (Delisle 1966); 4) Ecological Studies of the Sacramento-San Joaquin Estuary, Part 1 (Kelley 1966); 5) Concept Plan for Wintering Waterfowl Habitat Preservation, California Coast (U. S. Fish and Wildlife Service 1979); and 6) Concept Plan for Waterfowl Wintering Habitat Preservation, Central Valley, California (U. S. Fish and Wildlife Service, 1977). Response to comments 50, 51, and 52 outline the importance of the Napa Marsh as a rearing area for juvenile Dungeness crabs and a spawning area for numerous fish species. Also, see Appendix IV.L, Page 85, 88 for a discussion of the fishes of Dutchman Slough and Pages 74-80 for the results of waterfowl aerial surveys and comparisons between Harvey & Stanley Associates 1983 data and the U. S. Fish and Wildlife Service winter waterfowl surveys.

400. The doubts regarding the dredge disposal system capacity are addressed in the addendum to the Krone/RMA report. See Appendix III.B of the Draft EIR/EIS.

401. In a response to comments sent to W. R. Williams, Inc. (September 20, 1983), Harvey & Stanley Associates responded to this comment. The following is quoted from their response.

"The overriding purpose of the yearlong monitoring program initiated at Cullinan Ranch was to document utilization of the various habitats by wildlife and to better understand the relationship of the carrying capacity of these habitats to the wildlife populations present. A yearlong study is important because of the great differences in seasonal utilization of the Napa Marsh and San Pablo Bay, particularly with respect to shorebirds and waterfowl. The utilization of carrying capacity and habitat to judge potential impacts of a project is a well established tool. Combining the information of such a monitoring program with historical data available allows for a quite thorough treatment of the questions of impact.

"On the other hand, there will certainly be questions which will not be answered, and some which might never be answered. Wildlife populations will constantly be changing, and these changes will be reflected in their utilization of various habitats and geographic areas. The value of an additional year, or two or even five is simply unknown. The majority of species would likely have somewhat similar patterns of utilization. The high rainfalls of this year created large areas of ponding in many of the diked agricultural fields and upland areas adjoining the Napa Marsh, and comparatively far less ponding, for shorter durations on the Cullinan Ranch. In a drier year, there would likely be less ponding on these other areas which would reduce the value of the habitat to resting or feeding waterfowl and/or shorebirds. It seems unlikely that these birds would move to the Cullinan Ranch, as the Ranch would still have less available ponding than adjoining areas, at least under present agricultural practices. The point of this discussion is that an additional year or two of data would not necessarily yield additional information of value in assessing impacts.

"A more problematic situation is in regards to the population of waterfowl in the north San Pablo Bay this winter. The total number of waterfowl were down for the Pacific Flyway overall this past year, and they have fluctuated in the San Pablo Bay Area. The following chart is taken from the U. S. Fish and Wildlife Service's Winter Waterfowl Surveys for the past four years and is illustrative of the fluctuation over that period. Only the grand totals for ducks, geese, swans, and coots are reported here, though considerably more information is available.

Winter Waterfowl Surveys  
All Species  
(Numbers of Individuals)

	1983	1982	1981	1980
California	3,026,010	4,802,255	5,229,365	7,102,715
San Francisco Region	396,505	194,425	626,500	925,920
San Francisco Bay	195,030	48,375	140,330	181,445

One major factor in these variations is the population of pintails. For pintails records are as follows:

Winter Waterfowl Survey  
Pintails

	1983	1982	1981	1980
California	1,077,985	1,756,760	2,291,155	3,750,800
San Francisco Region	50,160	36,535	259,295	594,650
San Francisco	14,480	1,175	3,510	28,300

"The addition of a half million pintails to the waterfowl populations of the San Francisco Region would indeed cause changes in the utilization of habitats. The most important area of concentration for the pintails, however, is the Delta (part of the San Francisco Region), where numbers of individuals ranged from a high of 508,885 in 1980 to 25,985 in 1982. In that period, changes in the San Francisco Bay proper were from 28,300 to 1,175, and the population in 1983 was 14,480, or half what it was in 1980. Spring breeding records for 1983 indicate that there will likely be an increase in populations seen in this year's (1984) winter surveys.

"This brief analysis is not meant to be conclusive, and there is considerable additional data. It does, however, illustrate the magnitude of variation to be expected in populations of waterfowl in the Bay Area. The key questions revolve around the ability to predict the impacts of the Cullinan Ranch Development given the range of variations to be expected. We still feel that the majority of these questions can be dealt with confidence.

"It is our understanding that the U. S. Fish and Wildlife Service is conducting ongoing studies of the importance of diked historic baylands to the wildlife of the San Francisco Bay Region. These studies are designed to collect data over a 3-5 year period in order to incorporate a wider variety of rainfall patterns, and to determine differences in utilization with respect to changes in population size of migratory species.

"Given the known range of variations of population numbers of waterfowl species, we would expect changes in a variety of patterns of utilization. Coupled with changes in harvest patterns by Leslie Salt, some of the changes in overall patterns of utilization of the San Pablo Bay/Napa Marsh may be anticipated. With regards to the Cullinan Ranch, changes in the numbers of birds passing over the Ranch would be expected, as would changes in the directions, and differential utilization of the various salt ponds (due to harvesting practices, salinity changes, etc.).

"Of course, as populations increase overall, additional crowding is to be expected in the areas which are now considered prime areas, and there would likely be utilization of other more marginal areas. A dry year would show considerably less use of upland areas. The combination of a wet year with higher populations would likely show some increased utilization of the Ranch site. Because of the ongoing pumping, the Cullinan Ranch would likely remain one of the least used (by waterfowl) of the agricultural tracts in the area.

"Thus, while additional studies for a longer duration are advisable in many respects, they are not necessarily essential in predicting a variety of potential impacts."

402. A trapping program to determine the presence of the endangered salt marsh harvest mouse at Cullinan Ranch was conducted by Harvey & Stanley Associates from June 3-25, 1983. Six areas of the marshes bordering the Cullinan Ranch site (along Dutchman and South Sloughs) were trapped (see Appendix IV.L, Figure 8 for exact trapping locations).

A total of 2,385 trap nights yielded only five salt marsh harvest mice, giving a success rate of 0.2 percent. All salt marsh mice were captured on one night, June 14, 1983, and ear-tagged. Extremely high tides that night may have forced the mice into a narrower band of habitat and increased trapping success. All salt marsh harvest mice were captured at the west end of the Cullinan Ranch along Dutchman Slough. Vegetation at capture sites was dominated by pickleweed, tules, and other species adapted to high tidal coverage and somewhat brackish water.

Five western harvest mice also were captured at the west end of Cullinan Ranch on June 14, 1983. This was the only night that this species was captured during the live-trapping program.

403. In a response to comments sent to W.R. Williams, Inc. (Sept. 20, 1983), Harvey & Stanley Associates responded to this comment. The following is quoted from their response.

"The California clapper rail was identified by Gill (1979) as resident 'along portions of Dutchman, South, and China Sloughs within Solano County,' and resident and breeding along 'Devil, South, China, Napa, Mud, Fagan, and Steamboat Sloughs,' as well as 'occurring within the marshes of Fly Bay, Coon and Edgerly Islands and along the marshes of the Napa River.' Selection of rail census techniques is normally dictated by vegetative

components of marshes, seasonal variation in tide height, and behavioral differences of the clapper rail between breeding and nonbreeding season. Visual censusing at high tide, in nonbreeding season, in the pickleweed marshes of the South Bay is effective, while in breeding season the rope drag method and broadcasting of taped clapper rail calls is more effective. Taped calls were found to be more effective in the brackish Napa Marsh (Gill, 1979). However, Massey and Zembal (1980), working with light-footed clapper rails, found that taped calls were unnecessary and disruptive. Devoting late afternoons and early evenings to listening to vocalizing rails was the most effective method. Harvey (1980, unpublished) has used the method successfully for the clapper rail as well. Draglines are most useful in locating nest sites. Emlen transects, as conducted, would have noted any vocalizations of clapper rails and are, thus, an acceptable method of determining their presence when run at the appropriate time of day. At least one transect per month (12 total) was conducted in the evening. During 12 months of transects, a calling individual was detected on a single occasion. Additionally, in June of 1983, a more thorough search was initiated specifically for clapper rails after conversations with Peter Sorenson of the US Fish and Wildlife Service Endangered Species Office. Taped calls were played while traversing the dike top on ten evenings. Only on one occasion during the survey was a clapper rail heard calling along Dutchman Slough. The individual was not heard again, and was likely a nonresident. Resident status is usually recognized upon three sightings in a single area.

"We are, therefore, confident that clapper rails exist in low densities at best. This, by no means, is an indication that they should be disregarded in planning. Their historical presence, their presence along the sloughs and islands of the Napa Marsh, and the upcoming designation of Dutchman and South Sloughs as critical habitat are all important reasons to address the clapper rail situation."

404. In a response to comments sent to W.R. Williams, Inc. (Sept. 20, 1983), Harvey & Stanley Associates responded to this comment. The following is quoted from their response.

"The monitoring at alternate marina sites was designed to document the utilization of these habitats by various species, again with the primary purpose of better understanding the carrying capacities of these areas and those factors influencing the carrying capacity. The most important concerns revolve around which species use the marinas, the specific habitat requirements of the species, and their adaptability to using marinas. Other

factors influencing this carrying capacity are the volume of boat traffic at the marinas and the sensitivity of individual species to this traffic. In the San Francisco Bay area, particularly over the past wet year, boat traffic in the winter was at its lowest point. Highest volume of boat traffic is on summer weekends. Whenever possible, monitoring at marinas was accomplished on weekends from mid-morning to the afternoon, in order to help evaluate the effects of this factor.

"Thus, in determining the potential wildlife utilization of the proposed marina at Cullinan Ranch, many factors enter into the equation. The simple fact is that at local marinas this past winter, there was very little boat traffic, even during periods when the most traffic would have been expected. This spring and early summer, traffic picked up considerably, but largely after the majority of waterfowl left for breeding grounds. However, during periods of heavy boat traffic this summer, virtually all of the birds left the marinas for adjoining ponds, etc. This seems to be a gradual process, with displacement first to areas of the marinas with less traffic. Thus any analysis of the carrying capacity of the marinas must include a negative factor based on the time of the year and expected volume of boat traffic.

"An unknown in the equation is the expected traffic on marinas in drier or warmer years. Obviously, more boat traffic would be expected and the potential for disturbance would be considerably higher than during cold, wet years."

In a comparative study of avian use between a man-altered salt marsh (Huntington Harbor Marina, California) and a relatively undisturbed salt marsh (Outer Bolsa Chica Bay, California), Sully (1977) found that a much smaller number of species and individuals used the harbor area. Diving birds that frequent open bays and the ocean were the species typically found in the harbor. Even though portions of Huntington Harbor had an abundance of marine organisms, counts of diving ducks, gulls, and terns were low. Species that used the harbor, such as scoters and eared grebes, tended to stay in mid-channel and undeveloped portions of the marina. Sully (1977) speculated that bird shyness of humans and inability to adjust to an altered environment were factors influencing the lack of extensive use of the harbor. Provision of the mitigation measures identified in response to comment 453 will help to make habitats other than open water available for bird use and hopefully make the open water more supportive of bird use than found in the Sully (1977) study.

405. Results of Harvey & Stanley Associates (1983) fish surveys are presented in Appendix IV.L (pages 64-67 and 85-91). The potential changes in the patterns of fish use resulting from the proposed project are discussed in Appendix IV.L (pages 108-109).

406. The potential reduction of water quality in the marina due to boating activity and surface runoff may have significant effects on the biological food chain. The presence of boats and people concentrates activity, noise, exhaust stirring, and wave action. Water contamination by fuel and sewage from boats also presents a potential threat. Runoff water (from rain or irrigation) from landscaped parks, parking lots, gardens, and yards adjacent to the sloughs may contribute a variety of chemicals (oil, insecticides, herbicides, fertilizers) that can adversely affect water quality. The addition of nitrate fertilizer from runoff water to the waters of the project area could increase the potential for algal blooms in the waterways during the warmer months.

Maintenance dredging will be necessary to maintain channel depth for boat travel and waterflow for flushing within the interior of the project. Dredging would last for about 6+ months (throughout the spring and summer) commencing about 20 years after the initiation of the project and would continue on a five year cycle for the life of the project (Harvey & Stanley Associates 1983). It would remove about 2.5 feet of the bottom of the main interior channels. This would eliminate many of the benthic organisms and potentially suspend silt, thereby decreasing water transparency. Dredging may have a detrimental effect on juvenile fishes and young market crabs which make extensive use of the shallow waters of San Pablo Bay and its estuaries. Dredging activity also could resuspend nitrates locked in bottom sediments contributing to the potential for algal blooms. Extensive algal blooms during warm weather are known to cause fish kills due to oxygen depletion at night.

A reduction in water quality caused by runoff, dredging, or other sources may not only affect aquatic organisms such as benthic invertebrates and fish, but may also affect animals higher up the food chain (e.g., shorebirds, wading birds, raptors), by reducing or polluting their food supply.



DEPARTMENT OF THE NAVY  
MARE ISLAND NAVAL SHIPYARD  
VALLEJO, CALIFORNIA 94592

IN REPLY REFER TO:  
445-Ser 325  
6240  
AUG 08 1983

From: Commander, Mare Island Naval Shipyard  
To: Department of the Army, District Engineer, SPNPE-TE, San Francisco  
District, Corps of Engineers, 211 Main Street, San Francisco, CA 94105

Subj: Draft Environmental Impact Report/Environmental Impact Statement  
(EIR/EIS) for the Cullinan Ranch Specific Plan, City of Vallejo, CA

Ref: (a) Corps of Engineers SPNPT-TE Public Notice No. 14775E57 of  
17 May 83  
(b) U. S. Army Corps of Engineers, Technical Support Branch, EIS  
Coordinator, Mr. Roger K. Golden, fonecon of 1 Aug 1983 with  
Shipyard Code 445, Mr. Ralph M. Lee

Encl: (1) Mare Island Naval Shipyard Comments of 5 Aug 1983

1. Enclosure (1) is provided in accordance with reference (a). The comments include the subject concerns of the Shipyard and Naval Station, Mare Island. By reference (b), a deadline date of 8 August 1983 for the submittal of these comments was established.

2. The Shipyard point of contact for this EIR/EIS is the Environmental Engineer, Mr. Ralph M. Lee, Code 445, Mare Island Naval Shipyard, telephone number (415)-646-2421/2423/Autovon number 253-2421/2423.

J. R. JACOBSEN  
By direction

Copy to:  
City of Vallejo, Assistant Planning Director, Vallejo Planning Department,  
555 Santa Clara Street, Vallejo, CA 94590

Western Division, Naval Facilities Engineering Command (Code 20C),  
P.O. Box 727, San Bruno, CA 94066

Commanding Officer, Naval Station, Mare Island (Code 00), Vallejo, CA 94592

MARE ISLAND NAVAL SHIPYARD

COMMENTS RELATED TO THE DRAFT ENVIRONMENTAL IMPACT REPORT/  
ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED CULLINAN  
RANCH DEVELOPMENT

5 AUGUST 1983

1. AUTOMOBILE TRAFFIC.

407 The Cullinan Ranch development would introduce significant additional vehicular traffic on Route 37, Sears Point Road, particularly in the areas between the Mare Island North Gate ("Walnut Avenue") and Route 29. "Severe congestion..." between Wilson Avenue and Route 29 is acknowledged in Section III.H of the Draft EIR/EIS. Section III.H also indicates that "...there is no funding for...(improvement)... in the five year State Transportation Improvement Program (STIP)," but City of Vallejo Public Works personnel indicate that the STIP has recently been revised to include Fiscal Year 1986-1987 funding of \$10,000,000 for partial funding of improvement of Route 37 between the Napa River and Fairgrounds Drive. However, even with Route 37 improvements (mitigation) and the smaller development alternatives (A and B), the Street Capacity Summary, Table III-6 of the Draft EIR/EIS, projects unacceptable congestion ("Level of Service (LOS)=F") in 6 of 8 locations on Route 37. In addition to circulation problems, congested automobile traffic contributes to air pollution levels--which during recent winters, have occasionally approached air pollution episode levels in Vallejo. Further planning of proposed traffic improvements appears to be required.

2. WATERBORNE TRAFFIC.

408 The Cullinan Ranch development would introduce 1,700 - 2,000 boats to the lower Napa River, which would require increased openings of the lift span of the Mare Island Causeway. Impairment of vehicular traffic on the Causeway during busy periods would interfere with Mare Island activities and could generate vehicular congestion in Vallejo--on congested Tennessee Street, Wilson Avenue, Mare Island Way, and connecting streets. The projected impact on boat traffic and Causeway openings should be quantified, and methods of mitigation should be addressed.

3. DRINKING WATER.

409 The Cullinan Ranch development would introduce new drinking water requirements of 2.44 - 6.1 million gallons per day (mgd). The source of this water would be the City of Vallejo, which is also the source of drinking water for the Mare Island Naval Complex. In Section III.K of the Draft EIR/EIS, projections attributed to the City of Vallejo Water Superintendent indicate that existing supplies, "...over and above prior commitments,..." are adequate to meet the 2.44 mgd requirement of development Alternatives A or B, but not adequate to meet the 6.1 mgd requirement of Alternative C. However, the Draft EIR/EIS does not mention limitations of the Lake Berryessa source, which currently represents approximately 33% of the City's ultimate supply and is also used by other municipalities which have competed for available supplies. Vallejo's Sacramento River delta water source, which currently represents 55% of the City's ultimate total, would be affected if a proposed California Peripheral Canal were constructed. All aspects of drinking water requirements should be addressed in the EIR/EIS.

4. MEDICAL CARE.

410

The Cullinar Ranch development, with 4,500 - 10,000 dwellings, would significantly increase local requirements for medical care. Many Mare Island employees and their families depend upon Vallejo medical facilities for employer-sponsored medical care. Employee comments indicate that the widely popular Kaiser-Permanente Medical Center is presently highly utilized. The projected availability of medical care should be addressed in the EIR/EIS.

**LETTER #F-4**

407. Comment noted. Also, see response to comments 10 and 121.

408. As outlined on pages 30A and 30B of the Final EIR/EIS, the additional boat traffic would be focused during weekend periods with limited activity during weekday commute periods. Although the added boats would increase the frequency of raising the Mare Island Causeway lift span, it is not anticipated that such activity would significantly affect traffic flow. It may also be possible that boating activity (requiring raising of the lift span) could be prohibited during peak Mare Island commute hours.

409. The City of Vallejo has firm commitments for about 35 million gallons daily (mgd) of water from various service sources including Lake Berryessa and the Sacramento Delta. Current annual usage is about 18-19 mgd. Negotiations by the City of Benicia's or other jurisdiction without firm water supplies would not have any impacts upon Vallejo's committed sources.

410. The text of the Final EIR/EIS has been changed to discuss medical services; see page 124(a).

411, 412, and 413. error in numbering - please go on to 414.



Centers for Disease Control  
Atlanta GA 30333  
(404) 452-4257  
July 5, 1983

Mr. Edward M. Lee, Jr.  
District Engineer  
Department of the Army  
Corps of Engineers  
211 Main Street  
San Francisco, California 94105

Dear Mr. Lee:

We have completed our review of the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Cullinan Ranch Specific Plan, City of Vallejo, Solano County, California. We are responding on behalf of the U.S. Public Health Service.

414 We note on page 5-7 that there would be an increased potential for water quality problems in Dutchman and South Sloughs. The recommended mitigation depicts the developer as being the sole responsible person to conduct field sampling to detect potential problems and to develop a contingency plan to deal with problems. We believe more health agency participation and appropriate environmental monitoring should be included in this project.

415 The Final EIR/EIS should specify the exact location of a proposed dredged material disposal site (88 acres of wetland), potential adverse impacts involved, and mitigation measures. Although the wetlands in the project are subject to regulation under section 404 of the Federal Water Pollution Control Act, the final statement should also indicate if the planned project is compatible with the intent of Executive Order 11990, Protection of Wetlands.

416 There is no mention in the Draft EIR/EIS regarding potential vector-borne disease impacts. The final statement should indicate current mosquito problems in the area, expected impact the proposed plan will have, and planned mitigation measures should a problem occur.

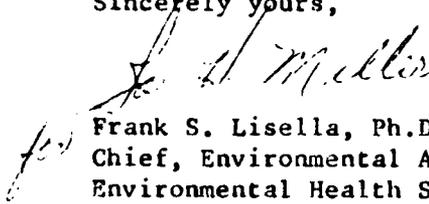
417 The proposed development is apparently very close to the Napa County Airport, which plans to triple its present flights per day and night by 1990. We are very concerned with the safety implications and noise associated with proximal flight patterns. Because of the potentially significant impact of aircraft noise, we highly recommend that a detailed study, including on-site noise measurements, be undertaken prior to construction to determine potential noise impacts. Concurrently, we recommend a thorough safety review of those portions of the project which lie within direct flight patterns for landing and departure.



Page 2 - Mr. Edward M. Lee, Jr.

We appreciate the opportunity to review this Draft EIR/EIS. Please send us a copy of the final document when it becomes available. If you have questions regarding our comments, please call Mr. Ken Holt of our staff at (404) 452-4161 or FTS 236-4161.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Frank S. Lisella". The signature is written in dark ink and is positioned above the typed name and title.

Frank S. Lisella, Ph.D.  
Chief, Environmental Affairs Group  
Environmental Health Services Division  
Center for Environmental Health

**LETTER #F-5**

414. The specifications for the monitoring program could be established in consultation with public health and other regulatory agencies but it is likely it will be paid for and carried out by the developer.

415. The location of the dredge spoils site (88 acres of wetland is shown in Exhibit 11-1 to be at the northwest end of the project site. Executive Order 11990, Protection of Wetlands, is discussed on page 4 of the Final EIR/EIS.

416. A discussion of mosquito conditions may be found on page 64a in the Vegetation and Wildlife section of the Final EIR/EIS.

417. See responses 268-271. On-site noise measurements have been conducted. See Section III.I. of the Final EIR/EIS (page 96).

U.S. Department  
of Transportation  
United States  
Coast Guard



*Karst*  
Commander (mepps)  
Twelfth CG District  
Government Island  
Alameda, CA 94501

16455/2  
11 July 1983

Department of the Army  
San Francisco District, Corps of Engineers  
211 Main Street  
San Francisco, CA 94105

Gentlemen:

I have just reviewed the Draft Environmental Impact Report/Environmental Impact Statement for the Cullinan Ranch Specific Plan, City of Vallejo, Solano County, California - Regulatory Permit Application - Army Corps of Engineers Public Notice No. 14775E57 dated 17 May 1983.

Among other things the Coast Guard is tasked with enforcing Section 311 of the Federal Water Pollution Control Act (P.L. 92-500). This section prohibits the discharge of oil, hazardous substances, or sewage into the waters of the United States. While the Act prohibits the discharge of pollutants, it does not provide for handling and disposal of routine bilge and engine oil and sewage wastes from vessels. Some marina operators make no provisions for these wastes, and the ultimate disposition can only be speculated. Other operators provide drums or tanks for its collection hopefully for reprocessing (of oil), but at least for proper disposal. Too often these drums are placed on the dock, over the water, or on an immediately adjacent shoreline where by accident or vandalism the wastes can reach the water.

418

It is not known what, if any facilities have been provided for waste reception at this facility. None are presently required by Federal Law, however, Federal Law does prohibit the discharge of pollutants into the waters of the United States, and violators shall be assessed a civil penalty of not more than \$5,000 for each offense, by the Secretary of the Department in which the Coast Guard is operating. Therefore, it is our concern that the applicant address this question and consider providing for facilities to contain sewage and bilge and waste oils, and to position these facilities so that they may not be tampered with, or subjected to accidental discharge.

Feel free to contact my office if you have any questions.

Sincerely,

W. F. WALKER

Lieutenant Commander, U. S. Coast Guard  
Chief, Marine Environmental Protection & Port Safety Branch  
By direction of the District Commander

Copy: (1) CCGD12 (dpl)  
(2) Pan Pacific and Redwood Realty

**LETTER #F-6**

418. For a discussion of sewage disposal see Section K, Utilities and Services, of the Final EIR/EIS (page 116). For discussion of the marine waste pumpout facilities see Section B, Marina Function and Design, of the Final EIR/EIS (page 29).



UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
630 SANSOME STREET  
SAN FRANCISCO, CALIFORNIA 94111

---

1950  
May 26, 1983

Mr. Edward M. Lee, Jr.  
District Engineer  
Department of the Army  
San Francisco District, Corps of Engineers  
211 Main Street  
San Francisco, CA. 94105

Dear Sir:

419 We have reviewed the Draft Environmental Impact Report/  
Environmental Impact Statement for the Cullinan Ranch Specific  
Plan SCH #82083110 and find that we have no comments to offer.  
It will not be necessary for you to send us any further  
information on this project.

Sincerely,

*for George M. Combs*  
JON D. KENNEDY, Director  
Land Management Planning

**LETTER #F-7**

419. Comment noted.



TO: SPURFET.  
UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
Washington, D.C. 20230

OFFICE OF THE ADMINISTRATOR

JUL 6 1983

F-8

LTC Edward M. Lee, Jr.  
District Engineer  
San Francisco District  
Corps of Engineers  
211 Main Street  
San Francisco, California 94105

Dear Colonel Lee:

This is in reference to your draft environmental impact statement on the Cullinan Ranch Specific Plan, Regulatory Permit Application Number 14775E57, City of Vallejo, Solano County, California. Enclosed are comments from the National Oceanic and Atmospheric Administration.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving four copies of the final environmental impact statement.

Sincerely,

*Joyce M. Wood*  
Joyce M. Wood  
Chief  
Ecology and Conservation Division

Enclosure





UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Washington, D.C. 20230

JAN 1 1983

TO: PP2 - Joyce Wood  
FROM: N - K. E. Taggar *KET*  
SUBJECT: DEIS 8305.09 - Cullinan Ranch Specific Plan, City of Vallejo,  
Solano County, California, Regulatory Permit Application by  
Pan Pacific and Redwood Realty (U.S. Army Corps of Engineers)

The subject draft environmental impact statement has been reviewed within the areas of the National Ocean Service's (NOS) responsibility and expertise and in terms of the impact of the proposed action on NOS activities and projects.

420 Geodetic control survey monuments may be located in the proposed project area. If there is any planned activity which will disturb or destroy these monuments, NOS requires not less than 90 days notification in advance of such activity in order to plan for their relocation. NOS recommends that funding for this project includes the cost of any relocation required for NOS monuments. For further information about these monuments, please contact Mr. John Spencer, Director, National Geodetic Information Center (N/CG17) or Mr. Charles Novak, Chief, Network Maintenance Branch (N/CG162), at 6001 Executive Boulevard, Rockville, MD 20852.



**LETTER #F-8**

420. The developer agrees to notify the National Oceanic and Atmospheric Administration of any relocation of geodetic survey monuments that may be on the site and to pay for the cost of such relocation. Such agreement will be included in conditions of approval of the project.



UNITED STATES  
DEPARTMENT OF THE INTERIOR

OFFICE OF THE SECRETARY

PACIFIC SOUTHWEST REGION

BOX 36098 • 450 GOLDEN GATE AVENUE

SAN FRANCISCO, CALIFORNIA 94102

(415) 556-8200

ER 83/682

Colonel Edward M. Lee, Jr.  
District Engineer, San Francisco District  
Corps of Engineers  
211 Main Street  
San Francisco, California 94105

JUL 16 1983

Dear Colonel Lee:

The following comments, prepared by the Bureau of Reclamation (BR), were not included in the Department's letter regarding your draft environmental statement for Cullinan Ranch Specific Plan, Solano County, California. We include them for your consideration.

421

Water and Power Resources

The Bureau of Reclamation (BR) advises that impacts resulting from increased municipal water usage are not clearly disclosed. On page 118, second paragraph, "Impacts - Water Supply," the document states that the Vallejo Water Superintendent believes that the City's Delta and Lake Berryessa water sources are adequate to meet the needs of alternatives A and B.

While this may be the case, an increase in municipal water use for the project from either source will result in significant secondary impacts. If water is used from the Delta, impacts to fish and wildlife must be discussed. And, if water is used from the Lake Berryessa supply, impacts to agricultural usage, the present use of this water, will result. Impacts from either source should be estimated and analyzed.

Thank you for considering these comments.

Sincerely,

Patricia Sanderson Port  
Regional Environmental Officer

**LETTER #F-9**

421. The City of Vallejo already has firm commitments for the water. Any impacts of that commitment resulted from previous governmental decisions and would not be caused by the Cullinan Ranch project. The Cullinan Ranch project would not result in the need for new water commitments.

W.R. Williams, Inc.

2130 Main St., Suite 230  
Huntington Beach, CA 92648  
(714) 960-6591/Telex 681-398

CI

June 27, 1983

Ann Meredith  
Associate Planner  
City of Vallejo  
555 Santa Clara Street  
Vallejo, CA 94590

Re: Draft EIR/EIS, Cullinan Ranch

Dear Ann:

Attached are our comments concerning the latest draft of the EIR/EIS for the Cullinan Ranch project. Previously, we were given the opportunity to respond to the preliminary or administrative draft and did so in a letter addressed to Christy Huddle, April 5, 1983. I wish to reference and include these past comments as well, since many are still applicable.

As you will see in reading our comments, there are several areas where we disagree with the data and conclusions presented in the EIR/EIS. Most often, the information contained in the EIR/EIS is misleading or presented without adequate supportive data or analyses. In particular, we feel a major shortcoming of the EIR/EIS is the failure throughout the report to adequately assess and compare various beneficial impacts along with potential adverse impacts as called for under CEQA guidelines. For this reason, I have included a listing and description of various beneficial impacts of the proposed project for consideration. Specific comments by our various subconsultants are also attached for consideration.

If you should have any questions or need additional information, please contact me. Thank you for your time and effort.

Sincerely,

  
Carl Neuhausen  
Director of Planning

CN:kma

cc: Roger Golden, Corps of Engineers

Enclosures: Draft EIR/EIS Comments

COMMENTS REGARDING DRAFT EIR/EIS  
CULLINAN RANCH SPECIFIC PLAN  
MAY 1983

422 Page S-1 - Purpose Of And Need For The Proposed Action - The public benefit associated with the proposed development is greater than indicated by the draft EIR/EIS. In addition to increased housing, the project would result in increased recreational boating opportunities, surplus park and recreation facilities, increased wildlife habitat of greater wildlife value, increased water area and shoreline along with increased public access, improved water quality from increased tidal flows, net public revenues over public costs, increased employment and job opportunities, increased support for local retail and industrial uses, etc. (See attached description of beneficial impacts).

423 Page S-3 - Alternative B - Reduced Project - No analysis has been made in accordance with the California Environmental Quality Act (CEQA) as to the economic feasibility of Alternative B. Alternative B is in fact impracticable from a marketing standpoint and would increase the cost of housing to future residents and result in greatly reduced revenues to the City and other public agencies.

423 Page S-3 - Alternative D - No Project - Similarly, the economic feasibility of Alternative D must be discussed. The EIR/EIS should weigh the no-project alternative against the beneficial impacts to be gained by the proposed project (i.e., needed housing, employment opportunities, recreational boating facilities, etc.)

424 Page S-5 - Summary of Beneficial Impacts - Again, the draft EIR/EIS fails to identify many of the beneficial impacts that would result from the proposed project. By not listing and discussing all beneficial impacts, the draft EIR/EIS is biased toward potential adverse impacts.

425 Page S-6 - Hydrology, Water Quality and Sedimentation - The high potential for reduced water quality during construction is unclear. Little or no impacts are anticipated from excavation work during construction because such work will be carried out "in the dry" with no inter-connection to existing or proposed water areas.

426 Page S-7 - Soils and Agriculture - The 6.7 percent figure in the EIR/EIS used to describe the amount of locally supplied oat hay is misleading. The Cullinan Ranch produces only 1.5 percent of the hay utilized by the dairy industries of the North Bay. The bulk of the hay shipped into the North Bay dairy area comes from the lower Sacramento and San Joaquin Valleys, including some hay from the Nevada area.

- 427 Page S-8 - Vegetation and Wildlife - The proposed project would not serve to initiate or be responsible for the impact identified in the draft EIR/EIS of eliminating the potential for salt marsh restoration. The value of the property for salt marsh and other wildlife habitat was reviewed in 1971-72 by the State Lands Commission and other public agencies. In 1974, the State of California and its various agencies relinquished certain interests in the property in exchange for public access and the grant deed to Coon Island, a property determined to have "equal or greater value" than the Cullinan Ranch. For such consideration, the property owner maintained the option to "develop and improve said property" in accordance with the Cullinan Ranch Boundary and Exchange Agreement.
- 428 Page S-9 - Aesthetics - The recommended mitigation measure regarding views from residential areas to the commercial area is already incorporated in the Specific Plan. The plan includes a 50 and 100 foot-wide buffer for landscaping in these areas.
- 429 Page S-9 - Traffic - The predicted Level of Service (LOS) along State Route 37 is based on extremely low and conservative traffic capacities as chosen for the EIR/EIS. Similar studies utilizing acceptable standards by the County of Solano and State Department of Transportation yield a more moderate and acceptable Level of Service. (See additional comments by Herman Basmaciyon, P.E., of Basmaciyon-Darnell, Inc., letter dated June 21, 1983).
- 430 Page S-9 - Noise - The conclusion here and elsewhere in the draft EIR/EIS regarding jet aircraft noise is made without sufficient supportive data or analysis.
- 431 Page 8 (Fourth Paragraph) - It has not been determined whether large quantities of peat will have to be removed. On the contrary, certain amounts of peat material may be intermixed with other fill soil material and placed within areas which would support structures. Such material can be engineered to overcome potential problems related to compressible fills and other settlement factors. (See attached comments of Dennis Furby of Harding-Lawson Associates, letter dated June 17, 1983).
- 432 Page 8 and 10 (Alternative B) - Reduced Project - Again, there is no discussion in accordance with CEQA of the economic feasibility of Alternative B. The extreme high number of medium density units and their proposed location would make such alternative impractical.
- 433 Page 13 (First Paragraph) - The site is more correctly described as being some eight to ten feet below the elevation of State Route 37.
- 434 Page 13 (Fourth Paragraph) - The area of the property within the County of Napa is approximately 30 acres in size, not 40 acres as indicated in the EIR/EIS.

- 435 Page 22 (First Paragraph) - Again, the area in Napa County is approximately 30 acres in size.
- 436 Page 25 (Second Paragraph) - The agreement provided for the exchange of Coon Island for Parcels B and C, not B and D.
- 437 Page 25 (Third Paragraph) - The 19 foot-wide water access easement on the levee extends only between Parcels A and D, not the entire length of the Cullinan Ranch property.
- 438 Page 25 (Fifth Paragraph) - Various land use alternatives for "Valnaples" were introduced to members of the State Lands Commission, State Attorney General's Office, California Department of Fish and Game, and the Bay Area Conservation and Development Commission, and are among the materials on file with these agencies. Specific language contained in the Cullinan Ranch Boundary and Exchange Agreement refers to the right of the property owner to "improve said uplands, create internal waterways," and make similar use of said property --- provided certain design standards in the Agreement are upheld. These standards were based upon a review of the land use configurations offered by the "Valnaples" alternatives.
- 439 Page 33 (Second Paragraph) - The +11.1 foot MLLW figure in the EIR/EIS in reference to tidal flooding cannot be construed as normal tidal inundation. As indicated in the following paragraph of the EIR/EIS, the 500-year flood elevation for the property is +9.2 feet MLLW and the estimated maximum flood tide is +10.5 feet MLLW. Tidal inundation of the perimeter dikes at elevation +11.1 feet MLLW is therefore, highly unlikely and could only occur under the most extreme high tide and severe storm conditions.
- 440 Page 48 - Drainage - The drainage system on site handles only surface runoff with little effect on the groundwater table and effective root zone within the open field areas. The fluctuating groundwater table does not allow underlying soils to drain properly and often harmful salts are concentrated in the upper soil profile creating an extremely shallow root zone. During extremely wet winter months, surface drainage is also impaired and can produce widespread ponding which often drowns the hay crop. This condition occurred in a number of areas on the Cullinan Ranch this past winter, 1982/83.
- 441 Page 48 - Hauling Distances - It is not clear how the short hauling distance and soil limitations which restrict the crop to oat hay give the site unique characteristics. In an earlier analysis, the EIR/EIS discussed the advantages of silage production for the property and the short hauling distance for such feed material, but went on to admit that the property could not grow silage because of soil limitations and prohibitive hauling costs. What then is the advantage of being within "a relatively short hauling distance to local dairies in Marin, Sonoma and Napa Counties?" The statements

in the EIR/EIS have now been condensed to such a degree that their meaning is unclear and without any supportive data or analysis. Transportation costs, in fact, do not constitute major differences in the price of oat hay. The price of hay is based on the type, quality and quantity purchased rather than the proximity to production. The transportation cost is generally equalized between near and far sources of production, resulting in similar delivered prices at the dairy.

442 Page 48 - Crop Yield - The small grains and forage crops on the Cullinan Ranch which are able to survive the saline soil and acidic conditions generally do poorly, producing only about 25 to 50 percent of normal yields for such crops. On more productive soils, the average expected yield would be between five and seven tons of dry hay per acre where, as indicated in the EIR/EIS, the Cullinan Ranch yields only about 2.5 tons of dry hay per acre.

The percentage figures in the EIR/EIS are misleading. It is estimated that some 204,000 tons of hay per year is consumed by the dairy industries of the North Bay. According to the Agricultural Commissioners of those areas, Sonoma and Marin Counties produce about 47,000 tons per year. Cullinan Ranch produces at best 3,170 tons or only about 1.5 percent of the total amount of hay used by the North Bay dairy industries. Over 75 percent, or some 157,000 tons of hay per year is shipped in from outside the area, principally from the Sacramento and San Joaquin Valleys. Nearly all hay moved in from the Valleys to the North Bay is higher value alfalfa which cannot be grown on the Cullinan Ranch due to poor soil conditions. The loss of lower value oat hay production on the Cullinan Ranch, being only 1.5 percent of the total hay used by the North Bay dairy industries, would have no significant impact on such industries.

443 Page 49 - Impacts - Soils and Agriculture - In the second paragraph, the concept of a "farm unit" as the minimum size unit was introduced by the Bay Area Conservation and Development Commission in their study titled: "Agricultural Values of Diked Historic Baylands." The reference and comments by Dr. Bahme in regard to a "farm unit" were made in response to the BCDC study. The BCDC study reported that a farm unit of 200 acres in the North Bay Area would yield a net profit of \$13,000 a year. A comparison of actual conditions related to the Cullinan Ranch and other farm areas in the North Bay Area by Dr. Bahme and also by Dr. Doyle Reed of U.C. Davis, indicated that such a farm unit would most likely experience a net loss annually. If Cullinan Ranch, some 1493 acres, was farmed independent of operations elsewhere, the result would be a net loss to the farmer (refer to reports by Dr. Bahme and Dr. Reed in Draft EIR/EIS Appendix).

444 Page 49 (Third Paragraph) - The U.S. Census of Agriculture statistics quoted in the EIR/EIS reflect the trend in parts of Solano County toward "hobby farms" which are dependent upon off-farm income for their operation and economic justification. The Cullinan Ranch can

hardly be considered a "hobby farm" operation where the farmer could hold a separate part-time job and adequately manage some 1,300 acres of hay ground. During the winter months, the tenant farmer at Cullinan Ranch is faced with the necessity of providing proper and adequate drainage to protect the seed crop and spends other necessary time repairing and maintaining his farm machinery and equipment. During the spring, major work efforts center around the harvesting and transporting of the hay crop to various markets. During the summer, the seed bed must be prepared for the next crop and the crop must be planted during the fall months. Along with these tasks, the farmer is faced with various accounting, sales and management efforts required of a full-time business venture.

445 Page 49 (Fourth Paragraph) - The fact that the present lessee and his family have been farming the Cullinan Ranch for some 30 years does not mean that the agricultural operation at the Ranch is economically feasible. The lessee and his family own and operate a second large farm which is more productive and from which they employ labor and equipment to assist in reducing major costs at Cullinan Ranch. If the present lessee and his family were to purchase the Cullinan Ranch or had to rely solely on the operations at the Cullinan Ranch for their livelihood, such operations would prove to be economically infeasible.

446 Page 49 (Fifth Paragraph) - The statement by the Marin County Farm Bureau is erroneous and presented in the EIR/EIS without any supportive data or analysis. As mentioned previously, over 75 percent of the hay utilized by the Marin and Sonoma County dairy industries comes from outside the Bay Area, principally from the lower Sacramento and San Joaquin Valleys. Nearly all hay brought in from these areas is higher value alfalfa which cannot be produced on the Cullinan Ranch due to poor soil conditions. The lower value oat hay grown on the Cullinan Ranch is only about 1.5 percent of the total amount of hay used by the North Bay dairy industries and its loss or replacement from the present major outside sources would have no significant impact on the local dairy industries of Marin and Sonoma County.

The Marin County Farm Bureau's statement also implies that the loss of hay from the Cullinan Ranch would have a negative effect on local forage prices or the price of dairy products in the Bay Area. This is also erroneous. The price of forage in the North Bay Area is wholly dependent on the activities of the major producers and suppliers located in the Sacramento and San Joaquin Valleys. Alfalfa is the hay crop which dominates the market and the bulk of production is in the Sacramento and San Joaquin Valleys. The limited amount of production on the Cullinan Ranch has no measurable effect on the overall price level of hay crops sold to the North Bay dairy industries.

Neither does the limited amount of production on the Cullinan Ranch have any effect on the price of dairy products sold in the North Bay Area. The price of dairy products in the North Bay Area is dependent on production and consumer activities throughout California and the United States. California ranks No. 2 nationally

in milk and cream production, and the leading counties for production and supplies to the Bay Area are located in the Central Valley area. As reported by the California Department of Food and Agriculture, Fresno, Merced, San Joaquin and other Central Valley counties supply 65 to 70 percent of all milk and milk products consumed in the Bay Area. The limited amount of forage produced on the Cullinan Ranch, which may in turn be sold to the local dairy industries, would have little or no effect on the price of milk or milk products in the Bay Area.

447

Page 49 (Last Paragraph) - The loss of the Cullinan Ranch for oat hay production is not significant for the reasons so indicated above. The Cullinan Ranch and other hay producing farms throughout the North Bay Area supply only about one-fourth of the hay utilized by the dairies of the area. Clearly, the economic feasibility of the dairy industry in the North Bay Area is not dependent on the availability of a local supply of hay. The acreage associated with the dairy industry can exceed the acreage of hay producing lands in the North Bay Area because the dairy industries import their major supplies of hay. Nearly all of the imported hay is higher quality alfalfa which cannot be produced on the majority of baylands due to poor drainage and soil conditions of the area.

448

Page 50 (Second Paragraph) - Local supplies of hay have little or no influence on prices charged by out-of-area suppliers. The out-of-area suppliers are the major producers of high quality alfalfa and consequently, set the trend for sales and prices within the North Bay Area. The out-of-area suppliers have represented for several years the leading counties for dairy forage and milk production in California, and provide a stable source of operation for dairy enterprises. Local or on-farm production of hay is not necessary for a successful dairy operation. (See additional comments in attached letters by Dr. Richard Bahme and Dr. Doyle Reed).

449

Page 53 (Second Paragraph) - The statement judging 22 percent of the top 15 feet of the site soil profile to be peat is erroneous and a gross misinterpretation of the Harding-Lawson data. Typically, the peat occurs in isolated, discontinuous pockets. (Refer to attached letter from Dennis Furby, Associate Engineer with Harding Lawson for additional comments).

450

Page 62 - Ground Avian Transects - Clearly, it should be pointed out that over 63 percent of the species within the grain fields were comprised of flocking starlings, and over 83 percent of all birds observed in the grain fields involved only five species, namely: flocking starlings, blackbirds, western meadowlarks, savannah sparrows and horned larks. All of the above species are very common throughout the area and tend to congregate in the various grain fields during the planting season. Nearly all are considered agricultural pests by local farming operations.

452 Page 64 (Fourth Paragraph) - There is no official policy of record for either DFG or FWS that considers "diked agricultural fields, in general, to be seasonal wetlands". What is the source for such statement in the EIR/EIS and in the rule, what is the precise definition for a "seasonal wetland?" As noted elsewhere in the EIR/EIS, the Cullinan Ranch was considered to be relatively well drained in comparison to other farmlands in the area. What portion of the ranch, if any, can be considered a seasonal wetland and on what basis?

452 Page 68 (Last Paragraph) - The proposed project, including Alternatives B and C, would not be responsible for initiating the impact identified in the EIR/EIS of eliminating the potential for salt marsh restoration. Under the Cullinan Ranch Boundary and Exchange Agreement, the property was declared to be "uplands" and "no longer in fact tidelands or submerged lands and therefore freed from the public trust for such purposes." The value of the property for salt marsh and other wildlife habitat was reviewed in detail at the time of the Agreement and such interests in the property were relinquished in exchange for public access and the deed to Coon Island, a property deemed to be of "equal or greater value" than the Cullinan Ranch. For such consideration, the property owner maintained the option to "develop and improve said uplands" in accordance with the Boundary and Exchange Agreement.

Under the Boundary and Exchange Agreement, the State Lands Commission acted as the successor in interest for all State agencies having jurisdiction and administrative powers on behalf of the State of California. Subsequent actions by agencies of the State, whether in regard to the Basic Wetlands Protection Policy or San Francisco Bay Management Guidelines, must respect the interests and provisions set forth under the Boundary and Exchange Agreement. For example, denial of the proposed project to further the continuation of the existing agricultural use or to restore the property to a salt marsh so as to conform with the San Francisco Bay Management Guidelines, would be in violation of the Boundary and Exchange Agreement.

453 Page 68 (Last Paragraph) - In response to the last sentence of this paragraph, the proposed project will result in restored fish and wildlife habitat including tidal marsh, mudflats and water areas which are of greater wildlife value than the existing grain fields.

454 Page 70 (Paragraph Four) - There is ample storage capacity (70 to 80 years) to consider a phased restoration program for all or a sizeable portion of the site and the interim use of the site as wildlife habitat before dredge disposal operations begin. More detailed studies are needed to develop a comprehensive and compatible plan for both maintenance dredge disposal and wildlife habitat restoration. Such plans could be provided for review and approval by appropriate permitting agencies prior to the issuance of grading permits for the disposal site.

- 455 Page 73 (First Paragraph) - The plant species, soft bird's beak, was not observed on on the property but rather adjacent to the property along the levee bank facing Dutchman Slough.
- 456 Page 74 - Mitigation Alternatives - It is not clear as to the purpose or intent of the EIR/EIS presenting mitigation alternatives. Are such mitigation alternatives intended to substitute for the other mitigation measures first listed above in the EIR/EIS? Regardless, the impact and mitigation alternatives identified under the above heading on Page 74 of the EIR/EIS are not applicable to the proposed project. The proposed project is not responsible for eliminating the potential to restore the site to a productive salt marsh habitat. Such decision and action has already been taken in regards to the property under the Cullinan Ranch Boundary and Exchange Agreement. (Refer to earlier comments).
- 457 The agricultural grain field habitat will be replaced with other wildlife habitats of greater wildlife value, including tidal marsh, mudflats, shrub/levee habitat and water areas. The proposed project will thus produce a net beneficial impact in terms of wildlife habitat and relative wildlife value. No mitigation measures are required for beneficial impacts.
- 458 Page 84 - State Route (S.R.) 37 - Officials at CALTRANS, District 10, have indicated that State Route 37 west of the Napa River would likely be removed from its existing freeway status, but would require highway improvements to expand it to a four-lane conventional facility.
- 459 Page 87 and 88 - The capacity values for the Level of Service (LOS) chosen for the EIR/EIS are extremely low compared to similar studies utilized by the County of Solano and State Department of Transportation. Also, the lane capacity figures utilized for the peak hourly analyses in the EIR/EIS are extremely low compared to actual field observations by Basmaciyon-Darnell, Inc., and the City of Vallejo. (See additional comments in the attached letter of Herman Basmaciyon, Basmaciyon-Darnell, Inc., June 21, 1983.
- 460 Page 97 (Paragraph One) - The first sentence in this paragraph uses two extreme conditions (i.e., single family residential uses & a noise level of Ldn 70dB) to exaggerate possible future noise conditions in relation to vehicular traffic along State Route 37. Only a limited number of single family units fall within such noise levels as demonstrated by Exhibit 111-9 of the EIR/EIS. The EIR/EIS never quantifies how many units would be exposed to any of the predicted noise levels. Also, no account is ever made of the amount of attenuation that would be provided by other units or structures nearest State Route 37. Similarly, the noise levels in regards to aircraft flyovers are related to limited, extreme probable noise exposures, without regard for differences in time or frequency of occurrence. The whole site area is assumed to be equally subject to noise exposure from jet aircraft. Regardless, the Ldn 60dB level predicted for jet aircraft noise is but Ldn 3dB over City

standards, a difference in noise levels which would be near undetectable to the human ear.

The entire noise analysis simply identifies limited, extreme conditions without proper or adequate information to quantify or qualify the actual number of residences that may be affected.

461 Page 97 (Paragraph Two) - In the second sentence, the EIR/EIS states, that "Calculations indicate that traffic noise levels inside the two elementary schools, even with the windows open, would not exceed 50dBA regardless of where the buildings are placed on the proposed site." However, under mitigation measures (Page 99, Par. 8), the EIR/EIS recommends, that "In order to avoid noise impacts due to traffic on the schools, the developer should move the school away from Route 37, provide interior ventilation, or stipulate that the schools should be only one story in height..." Why is such mitigation being recommended if no significant negative impact was identified?

462 Page 98 (First Paragraph) - The noise impacts under Alternative B are not identical to those described under Alternative A. More residential units would be concentrated in the area of State Route 37 under Alternative B leading to greater potential noise problems. Both single family and multi-family residential uses are required to meet the same minimum noise standards as set forth by the City of Vallejo.

463 Page 98 (Third Paragraph) - A noise level of 1dBA is undetectible and also untrue. What of the predicted increases in aircraft flyovers and major vehicular traffic along State Route 37 which would occur even without the proposed project?

464 Page 98 - Mitigation Measures - In regard to the first suggested measure, the EIR/EIS provides no quantifiable data or analyses with regard to potential noise from truck traffic along State Route 37. Providing an 11 to 12 foot-high noise barrier along the property frontage to screen the height of truck exhaust stacks is wholly an extreme measure without sufficient supportive data or analysis. From numerous studies conducted in regards to vehicular traffic, the major source of noise (excepting start and stop operations) comes from wheels in contact with street surface materials.

465 Page 98 and 99 - Mitigation Alternatives - The measures suggested in regards to jet aircraft overflights, again, assume that the entire project area would be exposed to unacceptable noise levels without sufficient, quantifiable data to support such conclusion. Indeed, in the next to last paragraph on Page 99, the EIR/EIS has recommended that a more detailed and accurate study be made to determine possible impacts related to potential aircraft noise exposure.

Each mitigation alternative should indicate the probable noise reduction, individually and cumulatively, to help understand whether one or more mitigation measures would be necessary. These again, should be related to the specific land uses and actual units affected by any adverse noise levels.

466

Page 126 - Setting - Economic/Fiscal - Alternatives A and B are not "comparable" as stated in the EIR/EIS if meaning comparatively equal. The extremely large number of medium density or multiple family units in relation to single family units under Alternative B is a distinct, major difference between Alternatives A and B. Alternative B, because of the large number of multiple family units, is impracticable from a marketing standpoint and would result in greatly reduced revenues to the City and other public agencies compared to Alternative A.

Several errors have been made throughout the economic/fiscal analysis of the EIR/EIS because the consultants involved in the preparation of the EIR/EIS made certain erroneous assumptions in regard to the predicted value of the various housing units, the value of certain unsecured property and the value of boats as affecting the tax base and potential amounts of revenue generated by the project. This entire section of the EIR/EIS is now being reanalyzed and rewritten by the EIR/EIS consultants to reflect more accurate information and assumptions in regards to the proposed project. Generally, the revised economic/fiscal analysis will reflect a net increase in public revenues vs. public costs, particularly during the early phases of development.

467

Page 148 - Soils and Agriculture - Again, the 6.7 percent figure is misleading. The Cullinan Ranch and other hay producing farms throughout the North Bay Area supply only about 47,000 tons or 25 percent of the hay utilized by the dairies of the area. Some 157,000 tons or over 75 percent of the amount of hay consumed by the North Bay dairies is shipped in from outside the area. Nearly all hay moved in from outside the area is higher value alfalfa which cannot be grown on the Cullinan Ranch or other bayland farms due to poor soil conditions. The loss of lower value oat hay from the Cullinan Ranch, being only about 3,000 tons or 1.5 percent of the total hay used by the North Bay dairy industries, would have no significant impact on such industries.

468

Page 148 - Vegetation and Wildlife - Alternative A would have a net beneficial impact, replacing the existing agricultural grain fields with tidal marsh, mudflats and water areas which are of greater wildlife value. Possible restoration of the property for salt marsh habitat has been studied previously and action taken to acquire Coon Island, a property deemed to have equal or greater value than the Cullinan Ranch.

469

Page 148 - Vegetation and Wildlife (Paragraph Two) - The proposed project will have a net beneficial impact in relation to potential marsh restoration. The project will serve to increase the total water area and shoreline connected to the Bay and provide increased

public access in keeping with the San Francisco Bay Area Plan.

470

Page 148 - Traffic - The predicted Level of Service (LOS) along State Route 37 is based on extremely low traffic capacities as chosen for the EIR/EIS. Similar studies utilizing acceptable standards by the County of Solano and State Department of Transportation yield a more moderate and acceptable Level of Service.

471

Page 149 - Soils and Agriculture - See comments related to Soils and Agriculture above. The decrease in oat hay production at Cullinan Ranch will have little or no impact on long-term productivity related to the forage and dairy industries of the North Bay Area. The major suppliers of hay in the Sacramento and San Joaquin Valleys would easily absorb any increases in demand because of the loss in hay production at Cullinan Ranch.

472a

Page 151 - Growth Inducing Impacts - Immediate lands surrounding the project area are designated for wetlands preservation by the Bay Area Plan and consequently, would not be subject to development without a major reversal in State policy through the State Legislature.

472b

BENEFICIAL IMPACTS OF THE PROPOSED  
CULLINAN RANCH DEVELOPMENT

JUNE 6, 1983

BENEFICIAL IMPACTS OF THE PROPOSED  
CULLINAN RANCH DEVELOPMENT

1. THE PROPOSED PROJECT WILL PROVIDE INCREASED HOUSING OPPORTUNITIES FOR LOCAL AND REGIONAL BAY AREA RESIDENTS.
  - (a) *Some 3000 single family residences and 1500 multiple family residences will be added to the area over a 20 year period.*
  - (b) *The residences will be of moderate to higher price value - with an average sales price of approximately \$145,000 and \$215,000.*
  
2. THE PROPOSED PROJECT WILL PROVIDE INCREASED RECREATIONAL BOATING OPPORTUNITIES FOR LOCAL AND REGIONAL BAY AREA RESIDENTS.
  - (a) *Two marina facilities are proposed - one containing some 500 berthing spaces and another some 200 berthing spaces. Both will contain sufficient space to permit expansion to some 500 additional spaces.*
  - (b) *Along with the marinas, the project will contain some 420 acres of water area, including a large marina channel of some 300 to 400 feet wide and three and a half miles long.*
  - (c) *The size and configuration of the main channel area has been designed to maximize sailing opportunities within the boundaries of the property.*
  - (d) *The project is also unique to the north Bay Area in that it offers open deep water access to the nearby Napa River and San Francisco Bay region.*
  
3. THE PROJECT WILL PROVIDE ALL NECESSARY SCHOOL AND PARK FACILITIES TO THE BENEFIT OF EXISTING AND FUTURE RESIDENTS.
  - (a) *The amount of parks and recreation facilities is greater than the amount required by the City and Park District.*
  - (b) *The City and Park District standards require some 50 acres of park space, while the proposed plan offers some 90 acres.*
  - (c) *The project includes two elementary schools and one junior high school to serve the projected school age population. No existing facilities will be impacted by the addition of students from the project.*

4. THE PROPOSED PROJECT WILL RESULT IN INCREASED WILDLIFE HABITAT OF MODERATE TO HIGH WILDLIFE VALUE.
- (a) *The proposed plan will provide some 960 acres of improved wildlife habitat, including tidal marsh, mudflats and water areas which are of greater wildlife value than the existing agricultural grain fields.*
  - (b) *The existing high value wildlife habitats of Dutchman and South Sloughs will be preserved and enhanced by widening and planting of the levee in these areas.*
  - (c) *The improved levee and adjacent boat channel will serve to provide a minimum 600 to 1400 foot-wide buffer between the residential neighborhoods and existing wetlands to the north.*
5. THE PROJECT WILL SERVE TO INCREASE THE TOTAL WATER AREA AND SHORELINE CONNECTED TO THE BAY AND PROVIDE INCREASED PUBLIC ACCESS IN KEEPING WITH THE BAY AREA PLAN.
- (a) *The proposed plan offers a large variety and amount of open space, including both land and water areas which comprise over one-half of the total property (823 of the total 1493 acres).*
  - (b) *Public access to such open space, including open water areas, boating facilities, natural wildlife habitats, parks and bicycle and pedestrian trails, will be provided as part of the proposed plan.*
  - (c) *The bicycle/pedestrian trail system alone will span a distance of some 13 miles and provide direct access to approximately 10½ miles of shoreline. The total shoreline to be added by the project is 17 miles.*
6. THE PROPOSED PROJECT WILL SERVE TO PROTECT AND ENHANCE THE EXISTING WATER QUALITY OF THE AREA.
- (a) *The project will result in enhanced tidal flows and flushing action within the adjoining sloughs and Napa River for improved water quality.*
  - (b) *During construction, each phase of development will be separated from various water areas by a series of coffer dams and the excavation work all performed "in the dry" to maintain water quality.*
  - (c) *Near the middle of the construction period, tidal gates will be installed and permit tidal flows from the adjoining sloughs to enter the project area so as to maintain desirable water quality.*
  - (d) *The project will also provide a 90 acre site for the disposal of maintenance dredge materials. This site*

could remain in operation for some 80 years before any dredge materials would have to be transported off-site.

7. THE PROPOSED PROJECT OFFERS A UNIQUE MARINA ORIENTED COMMUNITY WITHIN THE VALLEJO AREA OF A QUALITY AND DESIGN WHICH WILL ADD TO THE POSITIVE IMAGE OF THE CITY.
  - (a) *The specific plan for the project offers extensive architectural, landscaping and other design standards to insure a high quality development.*
  - (b) *The design standards are all subject to approval of the City, and will be incorporated as part of the CC & R's and/or zoning regulations for the property (refer to Pages 56 through 77 of the Cullinan Ranch Specific Plan).*
  
8. THE PROPOSED PROJECT WILL RESULT IN NET PUBLIC REVENUES OVER PUBLIC COSTS TO THE BENEFIT OF EXISTING AND FUTURE RESIDENTS.
  - (a) *The project when fully developed will create a surplus cash flow to the City of some \$2.1 to \$3.6 million a year.*
  - (b) *Solano County is expected to receive increased revenues of almost \$3.6 million a year against increased costs of slightly over \$0.6 million a year.*
  - (c) *Combined, net revenues to the City and County could total between \$5.0 and \$7.5 million a year.*
  
9. THE PROPOSED PROJECT WILL PAY ALL COSTS FOR INSTALLATION, OPERATION AND MAINTENANCE OF REQUIRED STREET IMPROVEMENTS, UTILITIES AND SEWAGE TREATMENT FACILITIES.
  - (a) *All major capital expenditures for the improvement of utilities, roadways, trail systems, public parks, etc. will be born by the developer and future residents of the project.*
  - (b) *All on-going costs for the operation and maintenance of such facilities will be paid for by the residents of the project.*
  - (c) *As indicated above, the project is anticipated to generate significantly higher annual revenues than annual costs to the benefit of public agencies and existing residents of the City.*
  
10. THE PROPOSED PROJECT WILL SERVE TO PROVIDE ADDED EMPLOYMENT AND JOB OPPORTUNITIES FOR THE BUILDING TRADE AND RELATED INDUSTRIES THROUGHOUT THE REGION.
  - (a) *The first phase of construction, involving some 300 residential units, will support an average of over 500 additional jobs per year. Of that amount, an estimated*

360 jobs per year would occur within the local Solano County area.

- (b) Over the full 20 years of project development, residential construction would support an average of 1250 additional jobs per year, with an average of some 1590 jobs being supported during the peak years of construction. Of the total average of 1250 jobs per year, an estimated 900 jobs per year would occur within the local Solano County area.
- (c) Added to the above figures which relate residential construction only, would be additional jobs created as a result of the many public works, construction of the marinas and other boating facilities, and construction of the various commercial facilities as designated by the proposed plan.

11. THE PROJECT WILL GENERALLY ASSIST IN THE UPGRADING AND DEVELOPMENT OF THE GUADALCANAL VILLAGE PROPERTY FOR USE AS A SPECIALITY COMMERCIAL COMPLEX OR INDUSTRIAL CENTER.

- (a) Development of the marina and the residential uses as proposed by the Specific Plan will provide a supportive market for either a specialty commercial complex or industrial center on the neighboring property owned by the City.
- (b) The provision of utilities and street improvements may be carried out in such a way as to facilitate the development of the Guadalcanal Village area.

12. THE PROPOSED PROJECT WILL LEND SUPPORT FOR LOCAL REDEVELOPMENT EFFORTS OF THE CITY AND LONG-TERM INCREASES IN RETAIL SALES AND INDUSTRIAL GROWTH IN THE AREA.

- (a) The future residents of the project will supply additional demands and revenues for both public and private activities within the City.
- (b) The quality of housing envisioned by the project will also lend support for existing industry and would tend to attract additional high quality industries to the area.

13. THE PROJECT WILL ASSIST IN PROVIDING NECESSARY STREET AND HIGHWAY IMPROVEMENTS AND HELP ALLEVIATE EXISTING AND PROJECTED TRAFFIC PROBLEMS THROUGHOUT THE AREA.

- (a) Traffic on Highway 37 (Sears Point Road) is continuing to increase along with related problems of traffic congestion particularly at the easterly approach to Sacramento Street and between Sacramento Street and Enterprise Street.

- (b) Such traffic congestion exists at the present time and will continue to pose problems in the future regardless of whether or not the proposed project is developed.
- (c) The project as such will add to the traffic volumes along Highway 37, however as part of the project, Highway 37 will be widened to a minimum of four lanes to improve present and future conditions.
- (d) The project will also assist in providing various improvements to other local streets, in particular, such streets as Wilson Avenue, Sacramento Street and Redwood Street (between Sacramento Street and Route 29).

## APPLICANT'S LETTER

422. The comment points out public benefits of the proposed project. A description of the benefits expressed in the comment is attached as Appendix IV.A.

423. Neither the State CEQA guidelines nor the Corps of Engineers NEPA regulations require that an EIR/EIS include a developer's economic feasibility study. Although developer's economic feasibility analysis for developer's proposed project has been prepared there is no requirement that the lead agencies prepare such a study for other alternatives.

However, the Economics and Fiscal section of the Final EIR/EIS does discuss the economic impact of all alternatives on the City of Vallejo.

423a. See response to comment 423.

424. See response 422.

425. Page 38, paragraph 7, of the Final EIR/EIS deals with the impacts of construction phasing on residence times within theagoon. Without tide gates residence times are as high as 12 days for Phases 1, 2 and one-half of Phase 3. For the completed project residence times are almost twice as long. It is not clear that the use of tide gates would effectively alter the early construction phase residence times (see RMA/Krone reports of February 1982 and August 1983).

426. While it is true that the bulk of the alfalfa hay used by North Bay dairies is imported from the Central Valley (and from as far as Nevada and Utah at times), the North Bay counties not only supply oat hay to local dairies but are net exporters of oat hay to other regions. In 1982 Marin County produced 31,000 tons of oat hay, grain and silage; Sonoma, Napa and Solano Counties produced 64,000 tons of oat hay, 12,000 tons of grass, 68,000 tons of alfalfa, and 58,700 tons of oat silage. See also response to comment 442.

427. References to the lost potential of marsh restoration have been removed from the impact section of the Final EIR/EIS. This discussion is contained in Section VI, Irreversible and Irretrievable Commitments of Resources which would be involved if the Proposed Action Should be Implemented. Both CEQA and NEPA require impacts to be

measured against the existing environmental setting, not against an alternative use of the property (i.e., a restored marsh).

The comment notes that the State has relinquished its interests in the property by virtue of a Boundary and Exchange Agreement executed in 1974 in which it deeded Coon Island to the State as mitigation for the right to develop the land. The agreement is attached as Appendix IV.F.

In order for the Cullinan Ranch to be restored to wetland, a state or federal agency or other group would have to specifically purchase the land from its current owners. Although that is a legal possibility, to date no such offer has been made and none is expected in the foreseeable future. Thus, the Final EIR/EIS should not imply that but for the proposed project, restoration to wetlands would occur.

428. The Land Use Map following page 37 in the Cullinan Ranch Specific Plan does show that the Neighborhood Commercial area would be buffered from adjacent residential uses to the north and west by a pedestrian-bicycle trail and a landscape buffer respectively. However, the plan does not indicate any such buffer between the Neighborhood Commercial area and the residential area adjacent on the east side.

429. The capacities cited for various roadway segments are generally consistent with values established through national research (Highway Capacity Manual - Special Report No. 87, Highway Research Board, 1965). While these values may be considered conservative, they are reasonable approximations for the purpose of the Final EIR/EIS analysis. The use of daily traffic capacities provides an appropriate overall assessment of traffic flow conditions. It is however, recognized that peak hour flows represent the actual constraint on traffic capacity. The use of daily volumes assumes a percentage of this volume (typically 10%) would occur during the peak hour with the peak hour volume split with a slightly higher portion occurring in the peak direction (typically assumed as a 60%/40% directional split). The use of a different daily capacity would therefore not be particularly significant since assumptions on peak hour conditions would govern the actual roadway capacity.

As an example, the 1979 Solano County Transportation Plan lists "practical" daily capacity and "maximum" daily capacity. The practical value assumes service level E conditions only during the a.m. and p.m. one-hour peak periods. The maximum value assumes level E during extended periods of the day.

AD-A141 056

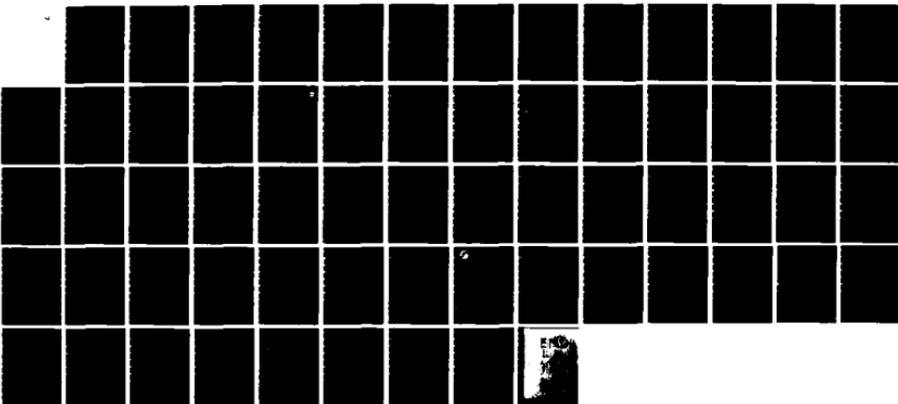
FINAL ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT  
STATEMENT CULLINAN. (U) ENVIRONMENTAL IMPACT PLANNING  
CORP SAN FRANCISCO CA MAY 84

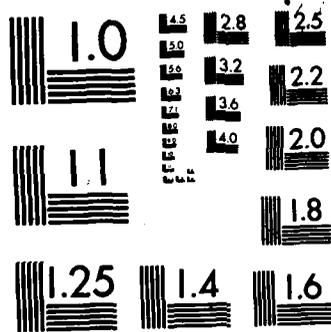
5/5

UNCLASSIFIED

F/G 13/2

NL





MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

It is acknowledged that the capacity values identified for Routes 37 and 29 may be conservatively low. However, in light of the proposed Route 37 freeway project (discussed in response to comment 10), these highways would operate satisfactorily and the capacity values cited in the Final EIR/EIS would not be a limitation on the ultimate capability of the roadways.

430. Please see revised Section III.I. of the Final EIR/EIS.

431. Please refer to responses 123 and 42.

432. There is no requirement under CEQA of NEPA to discuss the applicant's economic feasibility of each alternative.

433. The text has been changed to reflect the comment (page 13).

434. The text has been changed to reflect the comment (page 13).

435. The text has been changed to reflect the comment (page 22).

436. The text has been changed to reflect this comment (page 25).

437. The text has been changed to reflect this comment (page 25).

438. Comment noted.

439. Comment noted. Tides in excess of +6.1 feet MLLW occur about 180 times per year with highest tides generally in the range of +7.0 to +7.5 feet MLLW. The word "normal" has been deleted from paragraph 2, page 33 of the Final EIR/EIS.

440. As noted on page 48 of the Final EIR/EIS, the existing drainage system is designed to control surface runoff at Cullinan Ranch. While this does not lower the groundwater table in the drained areas, it does reduce the amount of standing surface water. When undrained, surface water eventually would percolate into the soil and raise the water table, which is already very close to the ground surface.

441. The second sentence of the sixth paragraph of the Final EIR/EIS has been amended to read: "The short haul and the limitations of the soil which restrict the crop to oat hay, silage and grain together make dairy feed production an appropriate agricultural use for the site." The two statements about hauling costs in the Final EIR/EIS are not contradictory. Hauling costs are an increasingly significant economic factor constraining the profitability of forage production. At the same time, North Bay forage producers enjoy some competitive advantage over Central Valley producers in the North Bay dairy market. Based on conversations with North Bay dairymen and agricultural advisors, current hauling costs are approximately \$10-20 higher from the San Joaquin Valley than from local producers, and this differential would increase with rising fuel costs.

442. The statement that Sonoma and Marin counties only produce 47,000 tons of hay per year while dairies consume 204,000 tons is misleading both in quantity cited and in failing to distinguish between oat hay and alfalfa hay. Oat hay and alfalfa hay play different roles in dairy nutrition, and while the region is a net importer of alfalfa hay it is a net exporter of oat hay.

The 204,000 ton hay requirement cited was derived by the commentor in "The Economic Feasibility of the Cullinan Ranch" prepared for the developer. It is based on 51,00 dairy cows consuming 4 tons per year apiece. This number does not distinguish between oat hay and alfalfa. Alfalfa, which is high protein content, has been the nutritional mainstay for lactating cows. The rising costs of alfalfa have brought about changes in dairy practices in the North Bay, with dairies turning to oat hay and other local forages as a larger part of the diet for lactating cows and the major feed for dry cows and heifers. Different ranchers purchase a different mix of feeds, taking into account relative costs and nutritional value. Sonoma County Agricultural advisor Rick Bennet estimates that with good management milk cows could be fed an annual average of 2.25 tons alfalfa and 2.25 tons oat hay plus green chop, grain and pasture. Dry cows and heifers, which constitute about half the herd, could be fed on 2.4 tons of local forage a year. Based on the 51,000 head estimate regional alfalfa hay requirements might be:

<b>Milk Cows:</b>	$25,500 \times 2.25 = 57,400$ tons each of alfalfa & oat hay
<b>Dry Cows &amp; Heifers:</b>	$25,500 \times 2.40 = 61,200$ tons oat hay
<b>Total Alfalfa</b>	= 57,400 tons, most imported from outside region
<b>Total Oat Hay</b>	= 118,600 tons, mostly local

In fact, at present, the alfalfa consumption is probably higher and the oat hay consumption somewhat lower; precise figures are not available. But it appears that local dairies and growers are responding to alfalfa prices by increasing local forage consumption. Another response to rising alfalfa costs has been increasing use of oat silage to replace alfalfa; one dairy has successfully substituted oat silage completely for alfalfa.

443. Comment noted. The main differences between the analyses are due to the assumptions used about land costs and equipment purchases.

444. Comment noted. The DEIR/EIS does not equate the Cullinan Ranch with a hobby farm, but points out that while the ranch may not be feasible operation alone, it appears to have a history as a viable agricultural unit operated as one of several economic activities for a family.

445. The key point is that the site is currently under lease, and that the farmer finds it worthwhile to invest labor and capital in it. The analyses which found the ranch uneconomic assume that the farmer would have to purchase rather than lease it, and that the operation would always be oat hay. If agriculture were the highest use allowed on the land (i.e. as in the No Project Alternative) then the purchase or lease price would presumably reflect the potential value of the land as agricultural land, possibly lowering land costs as agricultural input. Alternative assumptions about cropping, i.e. the possibility of silage production or double-cropping with sewage effluent, could also produce a more favorable return or agricultural use, but are not feasible.

446. See responses to comments 21, 426, 441, and 442.

447. See response to comment 21.

448. See responses 21, 426, 441 and 442.

449. Please see response 123.

450. Comment noted. The results of Harvey & Stanley Associates (1983) avian sampling surveys have been summarized in the Vegetation and Wildlife section of the Final EIR/EIS. The fact that European starlings, red-winged blackbirds, Brewer's blackbirds, savannah sparrows, western meadowlarks, horned larks, rock doves, and house finches made up over 88 percent of all birds observed in the fields has been included in the summary.

451. According to the U. S. Fish and Wildlife Service (FWS) (1979), "Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water." For purposes of this classification, wetlands must have one or more of the following three attributes: 1) at least periodically, the land supports predominantly hydrophytes (plants typically found in wet habitats); 2) the substrate is predominantly undrained hydric soil; and/or 3) the substrate is saturated with water or covered by shallow water at some time during the growing season of each year. An area is considered a wetland according to the FWS definition if it meets one of the above criteria.

The Cullinan Ranch site has been mapped by the National Wetlands Inventory (U. S. Fish and Wildlife Service n.d.) as a "palustrine farmed wetland". Such a designation means that the soil surface has been mechanically or physically altered for production of crops, but hydrophytes will become reestablished if farming is discontinued (FWS 1979). If pumping were discontinued, the Cullinan Ranch would probably have seasonal ponding similar to the surrounding agricultural lands. If farming were discontinued, and extensive areas were flooded for significant periods of time, hydrophytes probably would become reestablished.

Palustrine farmed wetlands do not have water regime, water chemistry, or soil modifiers (e.g., tidal, nontidal, salinity, pH) as are given to other classifications of wetlands by the FWS (1979). The "farmed" category is considered a special modifier since the area has been altered by man's activities (i.e., diking and farming).

In the Draft EIR/EIS, the term "seasonal wetland" was not used as a term defined by law or regulation. The connotation was used to indicate that many diked agricultural fields in the Bay area experience ponding during the wet months of the year (i.e., winter). The time of year that water is present coincides with the time of year that large concentrations of waterfowl and shorebirds are present.

452. See response to comment 427.

453. The proposed tidal marsh, mudflats, and open water habitats will only be of greater value to wildlife than the existing grain fields if appropriate mitigation measures are incorporated into the specific plan. These include: 1) planting a broad band of natural vegetation around the development peninsulas; 2) restricting landowners from planting to

the water's edge or building retaining walls within the natural vegetation zone; 3) creating a large intertidal area; 4) extending the areas of tidal marsh; 5) producing healthy vegetation cover along the levees to provide refuge for species using the open water habitats and tidal marsh; 6) instituting an ongoing water quality monitoring program and correcting any water quality problems; 7) dredging on a limited basis so as to minimize adverse impacts on benthic infauna; and 8) restricting human activities in the tidal marsh, mudflats habitats, and smaller sloughs. Please see response to comments 197, 300 and 404 for further discussion of whether the proposed project will result in habitats that are of higher value to wildlife than the existing fields.

454. Comment noted.

455. According to Harvey & Stanley Associates (1983), soft bird's beak was observed in 1982 along South Slough, near its junction with Dutchman Slough. The population, consisting of approximately 50 individuals, was located at the upper edge of marsh on the northern or slough side of the levee (Duke pers. comm.). This northern side of the levee is subject to tidal action and is covered with typical brackish marsh vegetation.

The Cullinan Ranch property extends down to the ordinary high water mark along the northern side of the levee adjoining Dutchman and South Sloughs (Harvey & Stanley Associates 1983). Since the marsh designates the normal high water mark, the population of soft bird's beak is on the boundary between the Cullinan Ranch property and State Lands property. This area would have to be surveyed to determine legally whose property supports the soft bird's beak.

456. These mitigations have been deleted because they are proposed to mitigate loss of marsh restoration potential. The project will not result in the loss of marshland, but will only foreclose restoration to marshland. As such, no mitigations for loss of marshland are necessary. See response to comment 427.

To the extent that the existing agricultural operations serve as wildlife habitat, mitigations would be appropriate.

457. Comment noted. See response to comment 453.

458. See response 10.

459. See response 429.

460. Since no site plan specifying unit locations is available it was not possible to determine how many units would be exposed to various traffic noise levels. Nevertheless, it appears that some units would be exposed to excessive noise levels. Mitigation would be required in these cases. Clearly, a detailed study would be required in the design development phase to determine the number of units exposed to levels in excess of the city's standards and, in the case of multi-family dwellings, the state standard.

461. The statement refers to the junior high school and the Final EIR/EIS has been corrected.

462. Again, based on the layouts available, the number of units exposed to a given level of noise was not discernable. However, under either Alternative A or under Alternative B or Alternative E, housing units would, without mitigation, be exposed to noise levels in excess of the city's goal for exterior noise levels in residential and potentially in excess of the state standard for acceptable noise levels in new multi-family housing units. Neither of these agencies has a threshold limitation based on the number of units exposed.

463. The 1 dBA projected increase in noise levels under the no-project alternative includes changes in traffic and aircraft activity over time. If there were no increases, there would be a change of 0 dBA.

464. Based on noise measurements this height of noise barrier would be required because of the high (approximately 10%) percentage of diesel trucks. While it is true that a significant amount of acoustic energy generated by automobiles comes from the tire/road interface, the majority of noise from diesel trucks is generated distances significantly above the pavement level. The higher the percentage of diesel trucks, the more important this influence is. The proposed barrier would reduce noise levels outside of the

nearest single-family and multi-family homes to a level at or below an Ldn of 60 dB, generally considered the maximum acceptable for outdoor noise levels in residential areas.

Other mitigation measures are available. For example, the single-family residential portion of the project could be protected by solid fences between the homes and the freeway. These fences would have to be high enough to reduce noise levels to or below an Ldn of 60 dB and would have to be constructed such that there were no cracks or gaps. This would, however, leave the elementary school site, junior high school site and the multi-family home sites exposed to high outdoor noise levels. These areas could be protected by site planning (i.e., keeping the buildings between usable outdoor spaces and the roads).

465. Comment noted. Please see revised Section III.L of the Final EIR/EIS.

466. The economic/fiscal analysis has been revised.

467. See responses to comments 21, 426, 441 and 442.

468. Comment noted. See response to comment 453. Although some of the existing grain fields would be replaced with tidal marsh, mudflats, and open water habitats that, by themselves, may have beneficial impacts to some wildlife species, Alternative A would introduce 4,500 dwelling units and 1,700 new boats into an area that currently receives minimal human use. The potential adverse impacts for disturbances to wildlife are great and must be considered when discussing "net beneficial impact" of the new habitats. The new habitats should only be counted as benefits to wildlife if marsh-, mudflat-, and open water-associated wildlife species readily use them. Wildlife habitat is of little value if human activities prevent its use by wildlife.

469. Although the proposed project would serve to increase the total water area and shoreline connected to the Bay, the value of the habitats to wildlife depend on their ability to make use of the habitats (see response to comment 453).

470. See response 429.

471. See responses to comments 21, 426, 441, and 442.

472a. See response to comment 144.

472b. Comment noted; see Appendix IV.A.



**BASMACIYAN-DARNELL, INC.**

✓ C-1

ENGINEERING AND PLANNING  
Transportation, Traffic, Municipal, Transi

4262 Campus Drive, Suite B-1

Newport Beach, California 92660

(714) 549-9940

June 21, 1983

W.R. Williams and Associates, Inc.  
2130 Main Street  
Suite 230  
Huntington Beach, CA 92648

Attention: Mr. Carl Neuhausen

Subject: EIR/EIS for Cullinan Ranch

Dear Carl:

Enclosed are our comments on the EIR/EIS for Cullinan Ranch. We had previously submitted comments on the preliminary version. We note that the Draft EIR/EIS was responsive to some of the previous comments and not to a number of others. The enclosed list incorporates some of the previous comments, where appropriate.

Please contact me if I can answer any questions or provide further details.

Sincerely,

BASMACIYAN-DARNELL, INC.

Herman Basmacıyan, P.E.

HB/ss

enclosure

COMMENTS ABOUT THE CULLINAN RANCH EIR/EIS  
ITEMS PERTAINING TO TRAFFIC

A. The traffic volumes and the levels of service presented in the EIR/EIS are worst case conditions. They represent worst case conditions because:

473

1. The trip generation rates used are high compared to figures available from Caltrans, as stated in the EIR/EIS. In fact, subsequent to the completion of our study in August 1982, Caltrans prepared traffic estimates using a computer model procedure. These estimates are in fact substantially lower than the numbers in our report and those in the EIR/EIS.

474

2. Potential trip reduction attributable to Transportation System Management (TSM) measures is not taken into consideration.

475

3. The traffic estimates assume that in addition to Cullinan Ranch, Guadalcanal Village and the so-called South Parcel (or the North Housing Area) would also be developed. To our knowledge there are no specific development proposals for Guadalcanal Village and the North Housing Area at this time. The impacts of future traffic to/from Cullinan Ranch only (excluding Guadalcanal Village and the North Housing Area) would be less than those presented in the EIR/EIS.

476

4. Based on our experience, the capacity values used in the EIR/EIS for the various levels of service and the various facility types are generally too low. In the case of six-lane arterials, the capacity value is even less than used by Solano County and Caltrans in the Solano County Transportation Plan. In accordance with the Solano County Transportation Plan the practical capacity (Level of Service E) for a six-lane arterial is 50,000 vehicles per day (vpd). The EIR/EIS uses a capacity of 45,000 vpd for Level of Service E. Of course, the levels of service based on this low capacity value tends to overstate the potential future traffic congestion problems.

477

5. Also, the lane capacity figures used in the peak hourly analyses at intersections are too low compared to actual field observations by us and by others. Lane volumes in the order of 1700 vehicles per hour of green have been counted routinely. The figure used in the EIR/EIS is 1500 vehicles per hour per lane for Level of Service E. Actual field observations in many instances have indicated that the hourly lane capacity of a turning lane is very close to, perhaps equal to, the capacity of a through lane.

Incidentally, the peak hourly intersection analyses contained in our report were based on the Critical Movement Analysis (CMA), a procedure Caltrans suggested that we use. In the CMA technique, there is no assumption of a lane capacity, as implied in the EIR/EIS. In the CMA, critical movements are summed and compared to a pre-established table to determine Level of Service.

- 478
- B. The EIR/EIS presents information which indicates clearly that traffic volumes in the future will be high even without the proposed development of Cullinan Ranch. In fact, the EIR/EIS points out that, in the case of Route 37 along the frontage of Cullinan Ranch, the Level of Service without Cullinan Ranch would be E. The proposed development would bring about the opportunity to make improvements along Route 37 so that the Level of Service is improved to D even with the proposed development. This is a beneficial impact from a traffic standpoint.

The EIR/EIS fails to state that the amount of traffic to/from Cullinan Ranch would be a small percentage (eight percent or less) of the total future traffic on Route 37 east of Route 29. Between Sacramento Street and Route 29, traffic to/from Cullinan Ranch would constitute 14 percent of the total future traffic. Impacts in terms of percentage would be higher further west. Accordingly, the EIR/EIS should state that on Route 37 the impacts of traffic to/from Cullinan Ranch would be greatest in the vicinity of the proposed development and would be small at points further away.

- 479
- C. In our opinion, the portion of Route 37 between Walnut and Wilson Avenues (which includes the Napa River Bridge) should be classified as a four-lane freeway because it has grade-separated interchanges at both ends. For Level of Service C the four-lane freeway capacity would be 64,000 vpd per Table III-7 of the EIR/EIS. Operating conditions in the future would be Level of Service C, since the total future traffic would be 62,300 vpd, or less than Level of Service C capacity.
- 480
- D. The EIR/EIS states that the Level of Service E capacity for the portion of Route 37 between Fairgrounds Drive and I-80 is 60,000 vpd. This value of 60,000 vpd does not coincide with any of the figures presented in Table III-7 of the EIR/EIS. Therefore, we are unable to determine what the EIR/EIS assumes as the classification for this facility. In our opinion, this portion of Route 37 might be classified as freeway, in which case the capacity would be greater, and the future Level of Service would be C and not F as stated in the EIR/EIS.

481

- E. In our opinion the capacity for Route 29 north of Route 37 is understated substantially. The EIR/EIS states that Route 29 at this location is classified as a four-lane arterial and that under existing conditions the Level of Service on Route 29 north of Route 37 is F. To our knowledge, operating conditions on Route 29 at that location are generally satisfactory and would certainly not be characterized by Level of Service F. In fact, Caltrans indicates that Route 29 should be classified as a four-lane expressway rather than a four-lane arterial. The practical capacity of a four-lane expressway, Level of Service E, is 40,000 vpd. Thus, in the future, Route 29 would be expected to operate at Level of Service E or better, rather than at Level of Service F as indicated in the EIR/EIS.

482

Another point is that traffic to/from Cullinan Ranch on Route 29 would be 1,600 vpd or approximately four percent of the total future traffic on this facility. Thus, operating conditions on Route 29 would be affected very little, if at all, by the proposed development at Cullinan Ranch. The EIR/EIS fails to make this point.

483

- F. The EIR/EIS fails to state clearly that the traffic impacts of Alternative B (reduced level of development) are identical to those of Alternative A (the proposed development), since the Level of Service on all roadway segments would be the same for either alternative.

484

- G. The EIR/EIS fails to state clearly that the traffic impacts of Alternative A (the proposed development) are substantially less than those of Alternative C (General Plan Alternative), since the Level of Service on many roadway segments would be better with Alternative A than with Alternative C.

485

- H. The EIR/EIS fails to state that traffic on Route 37 to/from Cullinan Ranch during peak periods would be peaking in the opposite direction of the peak traffic to/from Mare Island. Thus, during the afternoon peak, congestion on Route 37 near Sacramento Street is in the eastbound direction because of heavy outbound traffic from Mare Island. Because Cullinan Ranch would be a residential area, in the afternoon peak hour, traffic would be primarily inbound to Cullinan Ranch. On Route 37 near Sacramento Street, Cullinan Ranch traffic would be peaked westbound, or in the opposite direction of Mare Island traffic.

486

- I. In conjunction with the intersections of Route 37 with the westerly and easterly Cullinan Ranch access roads, we would like to make the following comments:
1. The EIR/EIS states that Level of Service D would be achieved with the proposed mitigation measures. Because lane capacities should be higher than those used in the EIR/EIS, we believe that the Level of Service with the mitigation measures would be in

fact C. Nevertheless, as stated in the EIR/EIS, Level of Service D is considered acceptable by many governmental jurisdictions.

487

2. The mitigation measures proposed are identical to those contained in our report, except that at the westerly access point, two left turn lanes on Route 37 are proposed rather than one.

488

- J. On page 94 of the EIR/EIS under "Mitigation", what is the relationship between curved streets on Cullinan Ranch and safety at Napa County Airport?

## **BASMACIYAN DARNELL LETTER**

473. See response 429.

474. On page 94, the Final EIR/EIS discusses various Transportation System Management (TSM) measures which could reduce project traffic, particularly during peak hours. Although it would be tenuous to predict the specific effects of individual TSM elements it is possible that a comprehensive TSM program could reduce vehicle trips by about 10%. As indicated in the Final EIR/EIS such a reduction would generally improve a roadway's operation by about one full service level (a roadway operating at service level E would be improved to D).

475. It is acknowledged that Cullinan Ranch by itself would account for about 77% of the total daily "project" traffic and 80-83% of the peak hour project traffic.

476. See response 429.

477. It is acknowledged that the intersection capacity analysis contained in the Final EIR/EIS (page 87) yields relatively poor service level conditions. If for example, the intersection of Route 37/Westerly Access were analyzed using a national methodology (Interim Materials on Highway Capacity - Circular 212, Transportation Research Board, January 1980), the year 2005 p.m. peak hour condition with mitigation would be D (see Intersection Capacity Analysis following response 488), not E as shown in the Draft EIR/EIS. Similar improvement would be noted for the various service levels listed in Table III-5, page 87 of the Final EIR/EIS. Also, see response to comment 429.

478. See responses 10 and 477.

479. See responses 10 and 429.

480. East of Fairgrounds Drive, State Route 37 is essentially a six-lane expressway. Near I-80, Route 37 would have capacity comparable to a freeway approaching Fairgrounds Drive, the Route 37 capacity would be similar to that experienced by a six-lane arterial street. Although it is tenuous to select a single capacity for this segment, the 60,000 figure is a reasonable (although perhaps conservatively low) estimate.

481. See responses 10 and 429.

482. It is recognized that project traffic would represent a relatively small percentage of the total traffic on Route 29 (and other roadways beyond the immediate project area).

483. The Final EIR/EIS (page 92 and Table III-9, page 93) outline the relative effects of project alternatives.

484. See response 483.

485. Comment noted. Also, see response 10.

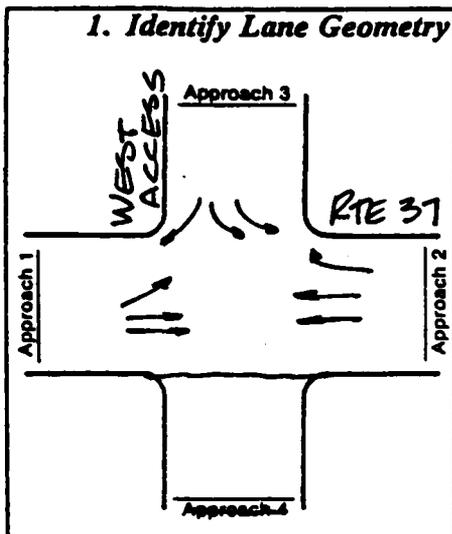
486. See response 477.

487. Comment noted.

488. In an airport approach pattern, long straight streets could be mistaken for airport runways during night landings. To reduce this potential, the Final EIR/EIS land use section recommends curved streets (to the extent possible) and specific street lighting design.

# INTERSECTION CAPACITY ANALYSIS

Intersection ROUTE 37/WEST ACCESS Design Hour PM PEAK  
 Other Conditions YEAR 2005 TRAFFIC + MITIGATION

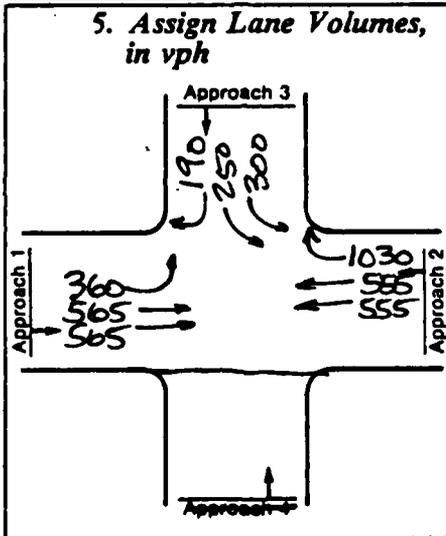
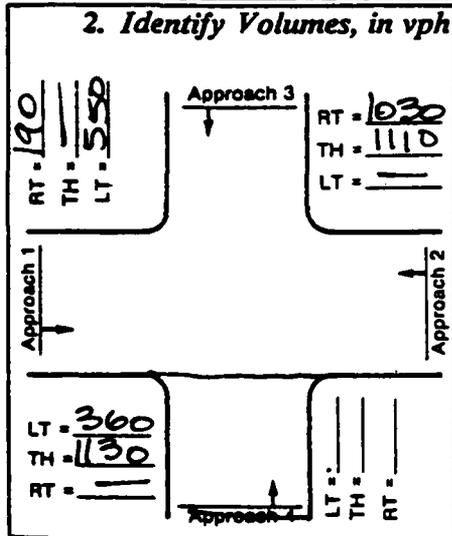


### 4. Left Turn Check

	Approach			
	1	2	3	4
a. Number of change intervals per hour				
b. Left turn capacity on change interval, in vph				
c. G/C Ratio				
d. Opposing volume in vph				
e. Left turn capacity on green, in vph				
f. Left turn capacity in vph (b + e)				
g. Left turn volume in vph				
h. Is volume > capacity (g > f)?				

### 6b. Volume Adjustment for Multiphase Signal Overlap

Probable Phase	Possible Critical Volume in vph	Volume Carryover to next phase	Adjusted Critical Volume in vph
A1B2	360	-	360
A1A2	555	-	555
B4	300	-	300



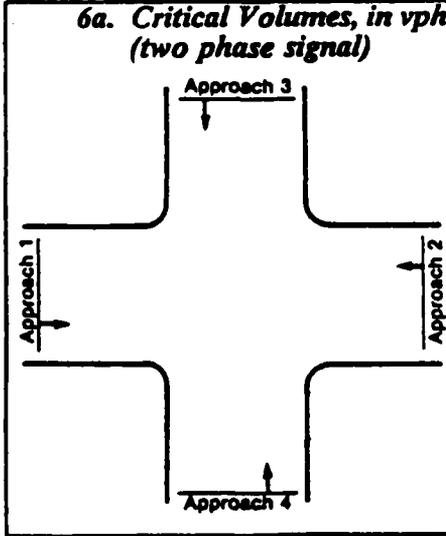
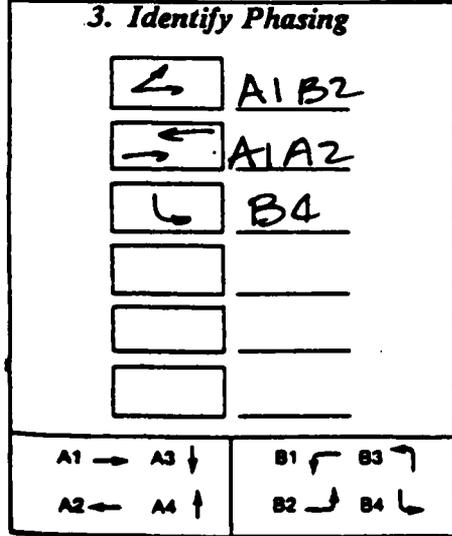
### 7. Sum of Critical Volumes

$360 + 555 + 300 + \dots = 1215 \text{ vph}$

### 8. Intersection Level of Service

D

Notes:



### Service Level Ranges

Level	Sum of Critical Volumes		
	2	3	4+
	Phase Phase Phases		
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	not applicable		

Harding Lawson Associates

✓ CI



June 17, 1983

11539,003.01

W. R. Williams, Inc.  
2130 Main Street  
Suite 230  
Huntington Beach, CA 92648

Attention: Mr. Walden R. Williams

Gentlemen:

Geotechnical Engineering Comments  
Cullinan Ranch EIR/EIS

469  
This letter presents our comments regarding Section E, Geology and Seismicity (pages 52 through 61) of the revised Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) prepared by Torrey and Torrey for the Cullinan Ranch Project. We previously reviewed an earlier draft of this report and provided specific geotechnical comments in our letter dated March 31, 1983. Some of those comments were incorporated into the final draft while others were not.

The main geotechnical concerns raised by the Draft EIR/EIS can be categorized into four basic areas as follows:

- suitability of bay mud and peat for fill
- settlement from consolidation of soft bay mud
- stability of excavated slopes in mud
- liquefaction during ground shaking

490  
The main point we wish to emphasize is that all of these concerns have been previously addressed in our Preliminary Soil Investigation Report dated November 13, 1981, and that good engineering design and construction procedures are available to mitigate these geotechnical concerns for the Cullinan Ranch Project. These proven mitigation measures have been successfully used in other similar developments around the San Francisco Bay margins. A more specific discussion of each of the areas of concern are presented in the following paragraphs.

RECEIVED JUN 20 1983

Engineers  
Geologists &  
Geophysicists

7655 Redwood Blvd.  
PO Box 578  
Novato, CA 94948

393

Telephone  
415-892-0821  
Telex 340523

Alaska  
California  
Colorado

Hawaii  
Illinois  
Nevada

Texas  
Washington  
Saudi Arabia

June 17, 1983  
 1539,003.01  
 Mr. Walden R. Williams  
 W. R. Williams, Inc.  
 Page 2

491

Bay mud and peat

The EIR/EIS indicates that much of the upper part of the bay mud contains peat, and estimates approximately 22 percent. It should be understood that this is the EIR consultants' interpretation of the boring logs in our report. Based on our exploration of the site, the peat indicated within the upper bay mud is contained within a matrix of silt rather than in thick continuous layers of 100 percent peat. Typically, the peat occurs in isolated discontinuous pockets. Therefore, when excavated, this material can be easily mixed with other soils to provide a suitable compacted fill. If larger zones with high peat content are encountered during excavation, they will obviously have to be well mixed with other soil or disposed of outside the building areas; we anticipate that condition will be the exception rather than the rule.

Excavated bay mud has been successfully used as compacted fill, even with peat, provided it is dried to a suitable moisture content. As a construction expediency, we usually recommend a cap of select fill to provide a better working surface but this is not always necessary. The amount of consolidation and post-construction settlement resulting from bay mud fill will depend on the amount of drying and degree of compaction specified. Within the limits of good engineering and construction, this additional consolidation will be insignificant compared to the consolidation of the underlying natural bay mud. The potential small magnitude of differential settlement within a building area resulting from either fill consolidation or the remaining isolated zones of peat is easily mitigated with proper foundation design.

492

Settlement

Settlements resulting from consolidation of natural bay mud, fill and peat are predictable within normal foundation design tolerances. Differential settlements resulting from variations in bay mud thickness will be gradual over relatively large distances; this will also be predictable with a limited number of additional test borings within specific development areas. These total and differential settlement determinations will then be used in designing surface drainage and underground utilities. As mentioned above, differential settlement will be negligible over the relatively small area of a typical residential structure, and will be mitigated with good foundation design.

493

Slope stability

Stability of channel slopes excavated through the soft mud has been evaluated for both static and dynamic (earthquake) conditions as summarized in our soil investigation report. The recommended slopes and building setbacks being used for current project planning are feasible and have been successfully used in other similar developments around San Francisco Bay. Additional slope stability studies will be necessary only where modifications

June 17, 1983  
1539,003.01  
Mr. Walden R. Williams  
W. R. Williams, Inc.  
Page 3

are required by special circumstances. We have also determined the technical feasibility of other mitigations such as sheetpile bulkheads, benched slopes, and pier foundations if reduced slopes or building setbacks are required.

with respect to channel slope stability, the most critical period is during excavation. The factor of safety against slope failures increases significantly after the channels are filled with water, and as the soft soils continue to consolidate and gain strength. Therefore, the stability of channel slopes will be even greater by the time the buildings are occupied.

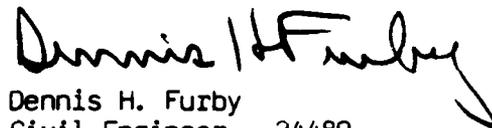
Liquefaction

499a We concur with the EIR/EIS conclusion that liquefaction is not an impact on the Cullinan Ranch site. The property is almost entirely underlain by clayey silt which is not subject to liquefaction.

In summary, all the geotechnical concerns for the Cullinan Ranch Project can be adequately mitigated with good engineering design and proper construction procedures. The feasibility of these mitigation measures has been proven by their successful use in similar marina projects around the San Francisco Bay Area.

Yours very truly,

HARDING LAWSON ASSOCIATES

  
Dennis H. Furby  
Civil Engineer - 24480

DHF/RMS/eb

2 copies submitted

**LETTER # HARDING LAWSON ASSOCIATES**

489. Technical information included in the geotechnical consultants comments on the Administrative Draft and Draft EIR/EIS has been used in the preparation of the Final EIR/EIS. Those comments are cited in the footnotes for this Comments and Responses document. EIP has independently and objectively reviewed this technical information.

490. Please see Response 39 and the Geotechnical Appendix (IV.J).

491. Comment noted. Technical information supplied in this preparation of the Final EIR/EIS.

492. Please see response 491.

493. Please see response 491.

494a. Please see response 491.

ALFRED GOBAR ASSOCIATES, INC.

CI

July 20, 1983

Mr. W. R. Williams  
W. R. WILLIAMS & ASSOCIATES  
P. O. Box 268  
Huntington Beach, CA 92648

Subject: Cullinan Ranch EIR Fiscal Impact Projections

Dear Walden:

4986 According to our notes, the basic differences in the assumptions we used to project the fiscal impact of the Cullinan Ranch and those used by Angus McDonald related to the following elements:

1. The price of housing that will be sold at the Ranch.
2. Unsecured taxable values in relationship to the secured values expected to result from the development of the Ranch.
3. Slow growth in revenues predicated on property taxes, increases in which are inhibited by provisions of Proposition 13 that limit increase in assessed value to 2.0 percent a year. Angus McDonald concludes that City costs will rise by 6.0 percent a year, while this element in the revenues projection will rise by only 2.0 percent a year in most years unless there is a sale.
4. Our estimate of market value of \$90,000 a boat for the boats moored at the Cullinan Ranch slips was believed to be too high.
5. There was some ambiguity about our alternative concepts of the City revenue potential of a hotel.
6. The share of increased property taxes derivative of the Cullinan Ranch's development that is applicable to the City is still a matter under negotiation. We used a 28.0 percent share based on discussions with City officials. Other percentage shares are now being negotiated.
7. There was some ambiguity about the treatment of taxable retail sales for the shopping centers to be developed at the Cullinan Ranch.

Most of the ambiguities have been resolved. The current status of each of the elements is as follows:

Mr. W. R. Williams  
Cullinan Ranch EIR Fiscal Impact Projections  
Page 2

1. We have provided Angus McDonald with a market research study which documents our assumptions of the absorption rate and price range of housing to be developed on the Ranch - in 1982 prices. We have also supplied recent multiple listing book information for waterfront and water-oriented units throughout the Bay Area to lend perspective regarding market values for this type of residential property.
2. We assumed that because of the broad based nature of development planned for the Cullinan Ranch, the ratio of taxable unsecured property at the development relative to the value of the secured property in the development would be the same as the average for the City of Vallejo or approximately 5.2 percent. The EIR consultant felt that there would be no unsecured taxable property added to the City's tax base as a result of the Cullinan Ranch's development. In order to resolve this conflict of assumptions, Alfred Gobar Associates, Inc., collected data on a parcel-by-parcel basis for five analogous areas in Orange County - two portions of the Balboa Peninsula, Balboa Island and the surrounding area, the Back Bay Newport, the Lido Island and Downtown Newport Beach area. The primary purpose was to establish a relationship between taxable values associated with secured property, unsecured property, and boats as distinct from other unsecured property for these analogous areas. The results of this survey indicate that there is unsecured taxable value associated with mixed-use, water-oriented developments of this type, but that it is a lower percentage of the value of secured property than was projected in the preliminary report of the fiscal impact of the Cullinan Ranch. These results are summarized in a separate memo attached.
3. The projections in the preliminary fiscal impact report assumed no allowance for inflation nor any increase in the tax base associated with the 2.0 percent per year increase in tax base allowable under Proposition 13. We also assumed no inflation of City cost. The EIR consultants assumed a 6.0 percent per year inflation in City costs and a 2.0 percent per year increase in the tax base related to property taxes with the result that the purchasing power of the property tax element in terms of its ability to support City services would degrade over time. The net effect of these assumptions was a degradation and purchasing power at a rate of about 2.13 percent per year for the residential elements and a degradation in real purchasing power of about 3.753

Mr. W. R. Williams  
Cullinan Ranch EIR Fiscal Impact Projections  
Page 3

percent a year for commercial and light industrial tax base elements. As a result, the overall property tax purchasing power was assumed to decrease by an average of 2.21 percent per year. Using essentially the same assumptions and allowing for a stepped-up tax base in the residential sector every five years as a result of resales, Alfred Gobar Associates, Inc., projects a degradation in City revenue from property tax collection from the residential component relative to the cost of providing City services of 0.752 percent per year. Our calculations are provided also in a separate memo.

4. The preliminary fiscal impact analysis projected an average taxable value per boat for vessels maintained at the Marina elements of the Cullinan Ranch development of \$90,000 per boat on the assumption that the weighted average length of boats moored at the slips would be 32.6 feet. Data supplied by management at Glen Cove Marina and at Martinez Marina indicated values of about \$2,500 per lineal foot for vessels of 30 feet or less and \$3,000 per lineal foot for vessels over 30 feet in length. The EIR consultants used an estimated tax value per vessel of \$15,000. In order to resolve these ambiguities, Alfred Gobar Associates, Inc., researched the tax bills for 36,000 boats in Orange County, identifying those boats that are located in each of the tax areas described above as being analogous to the type of development planned for the Cullinan Ranch - several areas in the Balboa-Newport area. The results of this analysis indicate that the tax base represented by boats is approximately equivalent to \$24,464 per boat. There was an average of approximately 0.4 boats per tax parcel in the areas in Orange County surveyed. The taxable value of boats in the five areas in the Newport-Balboa area was equivalent to 5.48 percent of the value of secured property in the tax areas. Since the preliminary fiscal impact projections assumed that the taxable value of boats would be equivalent to 16.23 percent of the taxable value of secured property in the Cullinan Ranch, the projections of revenue from taxes on boats included in the preliminary fiscal impact report should be reduced by approximately two-thirds. The taxable value in the preliminary fiscal impact study, therefore, associated with boats should be reduced from \$153 million to approximately \$52 million, a reduction of \$100 million in the tax base from the levels projected in our preliminary fiscal impact report.

Mr. W. R. Williams  
Cullinan Ranch EIR Fiscal Impact Projections  
Page 4

5. There was some disagreement about the tax revenue contribution that could be derived from a hotel to be developed on the Cullinan Ranch. These disagreements were resolved on the basis of a conference between Alfred Gobar Associates, Inc. personnel and the EIR consultants sustaining the values used in the preliminary fiscal impact study.
6. The allocation of property tax to be derived from the Cullinan Ranch's development between the City of Vallejo and other taxing agencies is a matter of interagency negotiation and will eventually be defined when the negotiations are completed.
7. On the basis of conversations between Alfred Gobar Associates, Inc. personnel and the EIR consultants, the ambiguity relating to the level of taxable retail sales per square foot of retail development projected for the Cullinan Ranch has been resolved with the result that the estimates provided in the preliminary fiscal impact report represent an acceptable and valid estimate.

In summary, therefore, the revenue potentials related to secured property have essentially been resolved generally in favor of the assumptions used in the preliminary fiscal impact study. Estimates of unsecured value as a percentage of total secured taxable value have been reduced from 5.2 percent to approximately 2.1 percent, a reduction of 60.0 percent in this element in the anticipated tax base that will result from the Cullinan Ranch's development. The treatment of tax base values relative to inflation is an unresolvable element in that calculations are dependent on the assumptions used with regard to projected inflation, the rate of residential resale activity on the Cullinan Ranch, and the likelihood that the 2.0 percent per year assessment limitation implied by Proposition 13 will be sustained into the future. The taxable value represented by boats to be berthed at the slips in the Cullinan Ranch should be reduced by two-thirds as indicated above, and the unsecured property values should also be reduced as noted. All of the other conflicts with the exception of the allocation of property tax as between the City and other taxing jurisdictions have been resolved, most in favor of the original estimates provided in the preliminary fiscal impact projections. The net effect is a reduction in the tax base estimate by \$130 million or 11.3 percent from the levels projected in the preliminary fiscal impact report.

Mr. W. R. Williams  
Cullinan Ranch EIR Fiscal Impact Projections  
Page 5

If you have any questions concerning our evaluation of these factors,  
please feel free to call me.

Very truly yours,

ALFRED GOBAR ASSOCIATES, INC.

  
A. J. Gobar  
President

AJG/jlb

## ALFRED GOBAR ASSOCIATES, INC.

June 20, 1983

Mr. Angus McDonald  
MC DONALD & ASSOCIATES  
2150 Shattuck, Suite 930  
Berkeley, CA

Subject: Unsecured Property Tax Base Elements for the Cullinan Ranch

Dear Angus:

Pursuant to our discussion in your offices of a few days ago, we collected tax bills for five study areas in Orange County with development patterns similar to those anticipated for the Cullinan Ranch. The specific areas for which parcel-by-parcel data were collected are identified as Map Book Numbers 423, 050, 440, 047, and 048. These are the Lido Island and Lido Island Gateway area in Newport Beach, Balboa Island and the Bay Front areas adjacent to Balboa Island, the Back Bay portion of Newport Beach, the Upper Balboa Peninsula, and the Lower Balboa Peninsula. We also pulled tax bills for 36,000 boats in Orange County and traced them back to the tax areas used for analogies.

A tabulation of secured and unsecured tax base value for these five areas is provided in the attached Exhibit.

The Cullinan Ranch proposal will include 1,700 boat slips and 4,500 dwelling units - a ratio of boats to dwelling units of 0.38 boat slips per dwelling unit. The number of boats per parcel for the five areas investigated is 0.41 boats per parcel - reasonably close to the projected ratio of slips per dwelling unit in the Cullinan Ranch development plan, but probably less than the number of boats in the Cullinan Ranch when allowance is made for boats that will be kept at the Cullinan Ranch site but not moored at the 1,700 slips.

As shown in Exhibit I, the aggregate value of unsecured taxable property and boats in the five tax areas used as an analog is equivalent to 7.59 percent of the secured values.

Using the Cullinan Ranch housing price estimates provided previously and the estimated taxable value of nonresidential development forecast for the Cullinan Ranch produces a total estimate of secured tax base values for the Cullinan Ranch at buildout of \$942,900,000. Multiplying this figure by 1.0759 suggests a total tax base value for the Cullinan Ranch in 1982 prices of \$1,014,466,110, 11.39 percent less than our

Mr. Angus McDonald  
Page 2  
June 20, 1983

previous estimate of the tax base. That estimate embodied a higher level of taxable value from unsecured property and boats than is justified by the data in Exhibit I. This suggests, therefore, that the City's revenue potential related to property tax assessments will be 11.4 percent less than would have resulted had the tax base values projected in our preliminary fiscal impact report been used as the assumed value for the projections.

We believe that the estimated value for boats predicated on the data in Exhibit I is low. This is primarily because the assessor's data did not differentiate between boats berthed in slips and all boats located in the Map Book Areas studied. As a result, dinghys and other small boats were included in the averages. If a similar adjustment were to be made to project the number of boats to be included in the Cullinan Ranch tax base, the total number of boats would be more than 1,700. The 1,700 figure relates to the number of slips, which are presumably associated with larger and more expensive boats than the average boat in the area which, as noted above, includes dinghys, trailer boats, etc.

For example, while the average tax value per boat for the five areas studied was \$24,463.87, the average tax value per boat in area 47 (Upper Balboa Peninsula) was \$35,185 a boat. Applying this figure to the 1,700 slips planned for the Cullinan Ranch marina facilities would produce a tax base estimate of almost \$60 million from boats. Adding a factor for boats on the Cullinan Ranch, but not berthed at one of the 1,700 slips would further raise the value of the boat element in the tax base potential of the Cullinan Ranch.

I hope we both live long enough - at least 20 years - to see which set of values came closest to being consistent with reality.

Best wishes.

Very truly yours,

ALFRED GOBAR ASSOCIATES, INC.

  
A. J. Gobar  
President

AJG/jlb  
Enclosure

cc: W. R. Williams

EXHIBIT I  
 PARCEL BY PARCEL TAX BASE VALUES  
 JUNE 1983

Map Book Area	No. of Parcels	Secured Value	Unsecured Value	Boat Value	Boats Per Parcel	Percent/Secured		
						Unsecured	Total	
423 Lido Area	1,343	\$ 277,813,338	\$ 5,630,632	\$ 568,670	0.05	2.02	0.02	2.23
050 Balboa Island	2,188	471,305,859	6,908,984	33,217,360	0.56	1.47	7.05	8.51
440 Back Bay	818	141,800,834	6,576,564	6,125,210	0.61	4.64	4.32	8.96
047 Upper Peninsula	1,110	162,053,657	5,034,932	22,624,180	0.58	3.11	13.96	17.07
048 Lower Peninsula	<u>1,488</u>	<u>215,915,122</u>	<u>2,457,384</u>	<u>6,960,890</u>	<u>0.27</u>	<u>1.14</u>	<u>3.22</u>	<u>4.36</u>
Total	6,947	\$1,268,888,810	\$26,778,776	\$69,526,310	0.41	2.11	5.48	7.59

Source: Orange County Assessor's Office and Alfred Gobar Associates, Inc.

## ALFRED GOBAR ASSOCIATES, INC.

June 20, 1983

Mr. Angus McDonald  
MC DONALD & ASSOCIATES  
2150 Shattuck Avenue, Suite 930  
Berkeley, CA 94704

Subject: Degradation and Tax Base Values Assumed for Cullinan Ranch  
Development

Dear Angus:

My interpretation of the data in your Table III-19 is that you took the initial value of the tax base implied by the residential development potential at the Cullinan Ranch and allowed it to increase as constrained by the provisions of Proposition 13. Concurrently, you took the initial value of the tax base and allowed it to increase at a 6.0 percent per year compounding rate to identify the increases in taxable value that would be necessary to match the increases in City costs. Therefore, by Year 10, since the taxable value did not grow as fast as the cost of City government, the residential tax base value was 80.65 percent as great as it was initially in terms of its power to support the purchase of City services.

Because the nonresidential components would have fewer resales, the degradation in purchasing power implicit in the 2.0 percent per year limit on increase as assessment (not offset by resales to establish a new tax base value) was greater than for the residential sector. In ten years the tax base was only 68.07 percent of the initial value when adjusted for the degradation in purchasing power under the assumptions used above.

We disagree with this assumption feeling that it penalizes the project's tax base unnecessarily. Under the assumption that inflation will be 6.0 percent a year, dwelling units sold subsequent to the first year would sell at increasingly higher prices. Also the resales, when they eventually occur, would also be at higher prices. The effect of this would be to dilute the degradation in purchasing power implicit in the legally constrained growth of the tax base, resulting in a much smaller difference between the income flow from the property tax elements in the Cullinan Ranch and the implied cost of City services.

Our assumption is that the housing units developed and sold in Year 1 would have a value of unity. The increment of development sold in Year 2 would be valued at 1.06 unity, etc. As a result, the units sold in

Mr. Angus McDonald  
June 20, 1983  
Page 2

Year 10 would have a market value of 1.6895 unity. The increments sold in Year 6 would have a market value of 1.3382 unity. We further assumed that the tax base of the units sold in the first year would increase at 2.0 percent a year compounding until the fifth year when they sold, establishing a new (resale) tax base value for them in Year 6 of  $1.3382 \times$  unity.

On these assumptions, the average tax value of units in place in Year 10 would be 1.56669 unity, as indicated on the attached printout. The target value to match the increase in the cost of City services would be  $1 \times (1.06)^9 = 1.6895$ . By our calculations, therefore, the available property tax base in Year 10 would be equivalent to 92.74 percent of the target necessary to match the increase in City costs. This is a significant improvement over the 80.65 percent ratio of tax base to City costs in constant dollars implied by the assumptions you used.

The attached printout summarizes our reasoning with regard to the change in tax base value over time, resulting in a much higher level of efficiency of the Cullinan Ranch's residential sector in achieving an increase in tax base value.

As a result, instead of showing a degradation in purchasing power of 2.13 percent per year, we show a degradation in purchasing power of only about a third that amount or approximately 0.75 percent per year.

If I misinterpreted your technique or if you have any questions about the assumptions we used, please feel free to call me.

Very truly yours,

ALFRED GOBAR ASSOCIATES, INC.



A. J. Gobar  
President

AJG/bjr

Encl.

cc: Mr. Walden Williams

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Sum	
1	1.0000																				1.0000	
2	1.0209	1.0400																			2.0609	
3	1.0404	1.0812	1.1234																		3.2452	
4	1.0412	1.1028	1.1441	1.1910																	4.5011	
5	1.0424	1.1249	1.1690	1.2148	1.2625																5.8534	
6	1.3382	1.1474	1.1924	1.2391	1.2877	1.3382															7.5431	
7	1.3450	1.4185	1.2162	1.2639	1.3135	1.3650	1.4185														9.3406	
8	1.3523	1.4469	1.5034	1.2892	1.3398	1.3923	1.4469	1.5034													11.3146	
9	1.4201	1.4758	1.5337	1.5938	1.3665	1.4201	1.4758	1.5337	1.5938												13.4174	
10	1.4485	1.5053	1.5644	1.6257	1.6895	1.4485	1.5053	1.5644	1.6257	1.6895											15.6649	
11	1.7908	1.5355	1.5957	1.6582	1.7233	1.7908	1.5355	1.5957	1.6582	1.7233	1.7908										18.3978	
12	1.8267	1.8983	1.6276	1.6914	1.7577	1.8267	1.8983	1.6276	1.6914	1.7577	1.8267	1.8983									21.3283	
13	1.8652	1.9363	2.0122	1.7252	1.7929	1.8632	1.9363	2.0122	1.7252	1.7929	1.8632	1.9363	2.0122								24.4712	
14	1.9005	1.9750	2.0524	2.1329	1.8287	1.9005	1.9750	2.0524	2.1329	1.8287	1.9005	1.9750	2.0524	2.1329							27.8400	
15	1.9385	2.0145	2.0935	2.1756	2.2609	1.9385	2.0145	2.0935	2.1756	2.2609	1.9385	2.0145	2.0935	2.1756	2.2609						31.4488	
16	2.3766	2.0548	2.1354	2.2191	2.3061	2.3766	2.0548	2.1354	2.2191	2.3061	2.3766	2.0548	2.1354	2.2191	2.3061	2.3766					35.7525	
17	2.4445	2.5404	2.1781	2.2635	2.3522	2.4445	2.5404	2.1781	2.2635	2.3522	2.4445	2.5404	2.1781	2.2635	2.3522	2.4445	2.5404				40.3207	
18	2.4934	2.5912	2.6928	2.3088	2.3993	2.4934	2.5912	2.6928	2.3088	2.3993	2.4934	2.5912	2.6928	2.3088	2.3993	2.4934	2.5912	2.6928			45.2331	
19	2.5432	2.6430	2.7466	2.8543	2.4473	2.5432	2.6430	2.7466	2.8543	2.4473	2.5432	2.6430	2.7466	2.8543	2.4473	2.5432	2.6430	2.7466	2.8543		50.4004	
20	2.5941	2.6958	2.8016	2.9114	3.0256	2.5941	2.6958	2.8016	2.9114	3.0256	2.5941	2.6958	2.8016	2.9114	3.0256	2.5941	2.6958	2.8016	2.9114	3.0256	56.1142	
Sum	33.9596	33.2475	32.3847	31.3582	30.1535	28.7554	27.7312	26.3375	25.1601	23.5854	21.7914	20.3492	18.7125	16.8454	14.7914	12.4718	10.4703	8.2410	5.7458	3.0254	3.0254	625.3540

## ALFRED GOBAR ASSOCIATES, INC.

July 1, 1983

Mr. Walden Williams  
W. R. WILLIAMS & ASSOCIATES  
2130 Main Street, Suite 230  
P.O. Box 268  
Huntington Beach, CA 92648

Subject: Fiscal Impact Implications for Cullinan Ranch - Phased  
Development

Dear Walden:

We combined the plethora of assumptions that now abound with regard to the fiscal impact of the Cullinan Ranch to project a phased analysis of the fiscal impact of the Cullinan Ranch on the City of Vallejo.

Key assumptions that we feel are probably unduly conservative, but nonetheless should be investigated, are as follows:

1. We reduced the ad valorem tax base subject to property taxes by 11.39 percent for the reasons described in our memo of June 20, 1983, to Angus McDonald.
2. After reviewing Mr. McDonald's calculations of erosion in the purchasing power of the property tax base due to the influences of Proposition 13 and the effect of inflation, we came to the conclusion (as described in another memo also dated June 20th) that his assumptions decreased the property tax base more than was realistic in terms of its purchasing power for City services. Our calculations show a much smaller degradation in purchasing power. Angus' interpretation of the degradation in purchasing power of the tax base implied by all taxable value, including boats, etc., was at a rate of 2.08 percent per year. Our calculations indicated that degradation in purchasing power in the key tax base element - residential - was considerably less than his estimates for residential property. We found a degradation rate of about 0.75 percent per year versus his estimate of 2.13 percent per year. To effect something of a compromise, the projections below allow for degradation in purchasing power related to the property tax revenue base of 1.0 percent per year compounding. If inflation in fact moderates, this represents an extremely conservative estimate.

There is a fairly wide variation in the estimates of the cost of providing City services. In order to test the fiscal efficiency of the Cullinan Ranch with regard to the City of Vallejo, under three sets of

RECEIVED JUL 5 1983

207 South Brea Boulevard, Brea, California 92621 / Telephone (714) 529-9411

Mr. Walden Williams  
July 1, 1983  
Page 2

assumptions regarding the cost of providing City services, we compared the various revenue projections with each of the three. Two of the cost estimates were predicated on our original report and the third on Angus' somewhat higher estimate of City costs.

Another element in the calculation of the net fiscal benefit to the City of Vallejo, which is still unresolved, relates to the share of property taxes which will flow to the City. At the time we prepared our fiscal impact analysis, it appeared that the City would receive about 28.0 percent of the incremental tax revenues from the Cullinan Ranch's development. Negotiations now are in ranges as low as 13.0 percent of the total increase in tax revenues from the property tax base at the Cullinan Ranch. The difference is 15/28ths or 53.6 percent. We have, therefore, prepared estimates of net cash flow to the City with the cash loss in potential flow represented by a 53.6 percent reduction in the projected cash flow from property taxes. These comparisons probably represent a worst case situation.

The other element in the comparisons is projections of City revenue from non-property tax sources. Generally Angus' estimates of these revenues were higher than ours during the first phases - Phases A and B - and somewhat less than ours for subsequent phases. As a result of the wide range of variables, the possible combinations of the variables gets fairly large, making it somewhat difficult to express in a simple manner the fiscal outcome of the various combinations of the available estimates. Exhibit I, however, represents our best effort to provide as simple a summary as possible.

Exhibit I shows the base estimate of property tax revenue after allowance for an 11.4 percent reduction in the tax base described in our memo of June 20th, and the degradation in the purchasing power of the property tax base at a degradation rate of 1.0 percent per year compounding - a compromise between the McDonald estimates and the revised estimates described in our memo of June 20th. Estimates for revenues from other sources include the low estimate prepared by Alfred Gobar Associates, Inc., the high estimate prepared by Alfred Gobar Associates, Inc., and the estimates derived from an analysis of Angus' revision of the original fiscal impact study. Estimates of City costs include the low and high estimates prepared by Alfred Gobar Associates, Inc., and the McDonald estimates. The potential reduction in property taxes - 53.6 percent - relates to uncertainty about the share of increased property taxes that will eventually flow to the City. The base calculations are predicated on a 28.0 percent share of the increase flowing to the City. The "potential reduction" shown reflects reduction

Mr. Walden Williams  
July 1, 1983  
Page 3

in total revenues by 53.6 percent of the property tax revenue projection - the difference between a 13.0 percent share applicable to the City under some formats of negotiation and the 28.0 percent share used in the base calculations.

As can be seen, nearly all sets of assumptions produce revenues in excess of the projected costs even after an allowance for potential reduction in property taxes associated with the smaller share flowing to the City. Comparing the net cash flow projections on the basis of a 28.0 percent share to the City with the maximum amount of a reduction shown in the far right-hand column indicates that in most cases (with the exception of those identified with an asterisk), cash flow from the project to the City will exceed the cash expenses.

If you have any questions concerning this, please feel free to call me.

Very truly yours,

ALFRED GOBAR ASSOCIATES, INC.

  
A. J. Gobar  
President

AJG/bjr

Encl.

cc: Mr. Angus McDonald

EXHIBIT I

PHASED DEVELOPMENT COST/REVENUE PROJECTIONS - CULLINAN RANCH

Phase	Total		City Costs		Net Cash Flow	Potential Reduction	Potential Deficit
	Revenue	Revenue	1	2			
A	Property Tax Revenue	\$ 212,529				\$ 113,854	
	Other Revenue 1	60,972	\$ 56,246	\$ 168,391	\$ 217,255		\$ 8,744
	2	70,443	56,246	168,391	105,110*		9,553
	3	132,000	56,246	168,391	104,301*		
					226,726		
					114,581		
					113,772*		82
					288,283		
					176,138		
					175,329		
B	Property Tax Revenue	\$ 507,901				\$ 272,089	
	Other Revenue 1	153,933	\$ 134,465	\$ 414,943	\$ 527,369		\$ 25,198
	2	177,843	134,465	414,943	246,891*		37,755
	3	299,200	134,465	414,943	234,334*		
					551,279		
					270,801*		1,288
					258,244*		13,845
					672,636		
					392,158		
					379,601		
C	Property Tax Revenue	\$1,020,525					\$546,710
	Other Revenue 1	654,618	\$ 273,816	\$ 835,164	\$1,401,327		
	2	703,791	273,816	835,164	839,979		
	3	659,600	273,816	835,164	710,743		
					1,450,500		
					889,152		
					759,916		
					1,406,309		
					844,961		
					715,725		



Exhibit I  
 Phased Development Cost/Revenue Projections - Cullinan Ranch  
 Page 3

Phase	Revenue	Total Revenue	City Costs			Net Cash Flow	Potential Reduction	Potential Deficit
			1	2	3			
G	Property Tax Revenue \$2,335,215					\$3,644,657	\$1,251,008	
	Other Revenue 1	\$4,348,981	\$ 704,324	\$2,135,842	\$2,444,000	2,213,139		
	2	2,140,192	4,475,407	704,324		1,904,981		
	3	1,584,200	3,919,415	704,324	2,444,000	3,771,083		
						2,339,565		
						2,031,407		
						3,215,091		
						1,783,573		
						1,475,415		

Footnotes:

- Other Revenue  
 1. Gobar Low  
 2. Gobar High  
 3. McDonald

City Costs

1. Gobar Low  
 2. Gobar High  
 3. McDonald

Potential reduction in property tax = 53.6 percent of projected property tax to allow for a 13.0 percent share of increase to City - as distinct from 28.0 percent share in base calculations.

\*Indicates assumptions which would show potential deficit if full potential reduction in property tax allocation is realized.

Source: Alfred Gobar Associates, Inc.

ALFRED GOBAR LETTER

494b. Comment noted.

# AGRIDEVELOPMENT COMPANY

CONSULTANTS - APPRAISERS

3 FLEETWOOD COURT

ORINDA, CALIFORNIA 94563

(415) 254-0789

May 25, 1983

AGRICULTURE - CHEMICALS - FOREST  
MARKETING & FEASIBILITY STUDIES  
RESEARCH & INVESTIGATIONS  
LAND USE ECONOMICS

Mr. Walden R. Williams  
W. R. Williams, Inc.  
2130 Main Street, Suite 230  
Huntington Beach, CA 92648

Dear Mr. Williams:

Re: Environmental Impact Report, Cullinan Ranch

Pursuant to your request of May 16, 1983, we have reviewed the subject revised report (EIR/EIS), Section D, Soils and Agriculture, and submit the following comments for your consideration.

495  
In Paragraph (Para.) 3, Page 48, small grains and forage crops which can tolerate salt and acidity grow poorly, producing only 25% to 50% of normal yields. There are few crops able to survive under these soil conditions. These crops are not suitable because of the adverse effect of the soil on yields and returns. On productive soils, the average expected yield is in the range of 5 to 7 tons/acre in contrast to 2½ tons per acre average realized by Bill Kiser.

496  
In Paras. 4 and 5, "Drainage", we object to the use of the description "good surface drainage compared to other agricultural fields in the area." The comparison with other fields in the area is not valid because the other fields are not classified as suitable for agriculture or have a very low Class IV or V capability rating, similar to the Cullinan Ranch. Because of partial reclamation on Cullinan, consisting of a few drain ditches and pump drainage, there is less surface ponding than in other lands which are flooded during seasons of heavy rain and high tides. The statement of "the creation of an extensive and effective system of drain ditches" is misleading because it represents the minimum ditching to allow pump drainage. It would require an analysis by an agricultural engineer to warrant the description "extensive and effective system". The fact that other so-called agricultural fields have not been reclaimed shows the marginal economic feasibility of investing in drainage structures and equipment in the Cullinan Ranch area.

497

Referring to Para. 6, Page 48, "Hauling Distances", the relatively short hauling distances to local dairies in Marin, Sonoma and Napa Counties is of minor importance because hay is not perishable and is bought weeks to months in advance of use. The cost of hay is based upon type, quality and quantity purchased rather than proximity of production. The transportation cost is generally equalized between near and far producing points, resulting in similar delivered prices per ton at the dairy. The claim that the site is "unique" for dairy feed production is a misuse of the term "unique". Webster defines unique as follows: (1) single or sole; (2) being without a like or equal; (3) single in kind or excellence, unequalled. The Cullinan property does not qualify for any of these definitions of unique with regard to dairy feed production. What the authors of the report should say is that salt tolerant hay or forage is the only crop which survives on the Cullinan Ranch.

498

With regard to the argument under "Impacts - Soils and Agriculture", Page 49, that the Cullinan Ranch could be operated successfully by someone who would be dependent upon income from off-farm employment is highly speculative and risky. The Cullinan Ranch does not qualify as a typical "hobby farm". The U.S. Census of Agriculture statistics quoted reflect the trend in Solano County toward "hobby farms" which are dependent upon off-farm income for operation and economic justification. The fact that the Cullinan Ranch has been leased for 30 years to the Kiser family does not prove that agricultural operations are currently feasible. In view of the economic analysis of the enterprise this is not a logical conclusion. The Kiser family operation is a special situation where they are utilizing farm equipment from a separate viable enterprise on the Cullinan Ranch with attendant low charges for interest and depreciation on the machinery investment. If the Kiser family did not renew their lease, it would be difficult to find a suitable new lessee because of the very limited farming opportunities on the Cullinan Ranch.

499

The argument in Para. 5, Page 49, that the Board of Directors of the Marin County Farm Bureau opposes the proposed Cullinan Ranch development is political in nature, lacking study and concern for the technical and economic feasibility of the enterprise. The statement that the small loss of hay production from Cullinan would be "devastating" is pure conjecture.

Page 3, Mr. Williams  
May 25, 1983

There is no evidence to show that smaller operators depend on locally produced hay for feed.

500  
The argument in Para. 2, Page 50, claiming that "the complete substitution of hay from outside the region is not a satisfactory alternative for the dairy industry" ignores the economic realities of land use and values. The Southern California dairy industry found several years ago that their pasture and hay land was valuable for higher and more intensive use. They discontinued growing low income forage and hay crops. As a result, the dairy industry rapidly changed to "dry-lot" operations where all of the hay and feed was produced more economically elsewhere (Imperial, Palos Verde and San Joaquin Valleys) and was transported to the dairies.

According to the California Department of Food and Agriculture, in 1982 approximately 60-65% of the hay consumed by North Bay dairies originated in the Central Valleys of California and Nevada, showing a trend toward the "dry-lot" operation of dairies as in Riverside, Los Angeles and San Bernardino Counties of Southern California. These have represented for several years the leading counties for milk production in California and confirm the stability of dairy enterprises employing the "dry-lot" mode of operation. Local or on-farm production of hay is not necessary for successful dairy operation.

501a  
Referring to "Mitigations - Soil and Agriculture", Page 50, the authors of the EIR/EIS Report speculated earlier (Page 49) - "Of greater importance is the cumulative loss of dairy hay production from all the hay lands in Marin and Sonoma Counties" - but on Page 50 they fail to project or speculate on increase in hay production in the future by utilizing low cost reclaimed waste water and/or placing additional land in hay production. They obviously do not understand the interaction of the forces of supply, demand and prices in a freely operating economy. In view of these inconsistencies in the report, one is led to believe that the final conclusion - "Therefore without an increase in local production, the loss of about 6.7 per cent of the hay grown locally must be considered a significant unavoidable adverse impact due to the cumulative adverse effects on local dairies" - is biased and highly speculative.

Page 4, Mr. Williams  
May 25, 1983

Please advise if you have any questions or if we may be of further service.

Very truly yours,

  
Richard B. Bahme, Ph.D.  
President

RBB:ah

## **LETTER #AGRIDEVELOPMENT**

495. The third sentence of the third paragraph on page 48 of the Final EIR/EIS has been amended to read: "Small grain and forage crops which can tolerate salt and acidity are the only crops able to survive under these soil conditions, and the yields are 25% to 50% of normal yields for these crops."

496. Both statements criticized by the commentor are substantiated by the aerial surveys cited in paragraph 5 on page 48 of the EIR/EIS, which compares Cullinan Ranch to other agriculture properties in the area.

497. Based on conversations with North Bay dairymen and agricultural advisors, current hauling costs are approximately \$10-20 higher from the San Joaquin Valley than from local producers, and this differential would increase with rising fuel costs. The site is not, however, unique in this respect, and the second sentence of the sixth paragraph of the Draft EIR/EIS has been amended to read: "The short haul and the limitations of the soil which restrict the crop to oat hay, silage and grain together make dairy feed production an appropriate agricultural use for the site."

498. Comment noted. See response to comment 445.

499. North Bay dairies operating on a dry-lot basis would have a competitive disadvantage compared to Fresno County dairies, which grow their own feed or rely on nearby growers. Currently the differential in feed costs due to hauling is in the range of \$10-20/ton, but this figure could increase with rising energy costs. This disadvantage could aggravate the decline in North Bay agriculture and spur further urbanization in itself. The loss of Cullinan Ranch production would not in itself be a major loss of local forage, but as the commentor notes, its loss would be part of a trend to reduce local agricultural activities. See also response to comment 21.

500. Comment noted.

501.a. Comment noted.

C1

ECONOMIC FEASIBILITY OF THE CULLINAN RANCH  
FOR AGRICULTURAL PRODUCTION

Summary of Statements Made Before the  
Vallejo City Council, June 7, 1983

The 1,493 acres of the Cullinan Ranch are composed of soil types identified as Reyes silty clay loam and Reyes silty clay. These are Class IV soils under the Soil Conservation Service classification system which ranks the best soils as Class I. Class IV soils are the lowest quality soils which can normally be cultivated. These particular soils are poorly drained, strongly acid and saline, and have a dense clay subsoil which is slowly permeable to water and air and impedes root growth. These soils can be worked only when dry.

The combination of soil and climate limit production to non-irrigated grain hay and limited amounts of oat seed. The soils can be worked during the summer and early fall and the crop planted before fall rains begin. The crops are harvested after the soil dries out in the spring.

Growing irrigated summer crops is impossible because the cool summer weather severely limits the choice of crops, the soil cannot be worked while moist, and there is no available irrigation water. Water from wells on the property have been too salty for irrigation.

Drainage is a major problem and a drainage pump must be operated all winter to keep the water low enough for satisfactory hay production. Energy costs have averaged about \$2,000 per month and increasing.

The property is currently leased to a farmer at Sonoma who operates it along with a similar sized ranch at his home site. With this combination of properties, the operation is large enough to be economically feasible using the good management which the leasee is providing. The property is too small to be an economically viable unit as a separate entity. Estimated operating costs are equal to or higher than possible income. It would be difficult if not impossible for a family to make a satisfactory living on the ranch. No one would be able to buy the ranch and pay for it from earnings.

Conclusions

*solb* The agricultural use of the property is limited to grain hay. The property is not an economically viable unit. If land has to be taken out of agricultural production in order to house our growing population, this is the land to take out of production.

A. D. Reed  
Agricultural Economist  
328 12th Street  
Davis, CA 95616  
916-753-2759

ADR:cp

420

MEMBER

American Society of Farm Managers and Rural Appraisers  
California Society of Farm Managers and Rural Appraisers

A. DOYLE REED LETTER

501b. Comment noted; see also responses 442 and 445.

RAY B. KRONE & ASSOCIATES  
SEDIMENTATION • TIDAL HYDRAULICS

C1

June 5, 1983

Mr. Walden R. Williams  
W. R. Williams, Inc.  
2130 Main Street, Suite 230  
Huntington Beach, CA 92648

Re: Cullinan Ranch Environmental Impact Report/Statement

Dear Mr. Williams:

I have reviewed the revised copy of Section C, "HYDROLOGY, WATER QUALITY, AND SEDIMENTATION" of the Draft EIR/EIS sent on May 19, as you requested.

Sole

The Draft appears to be technically accurate excepting the second paragraph, page 33. As described later in the Draft, the occurrence of an 11.1 MLLW tide is very unlikely, and any allusion to flooding of the present Ranch is misleading. The Draft should simply give the present levee and land elevations and compare them to the high tides that are described in the following paragraph. It would be helpful to have a reference to the project elevations described in Section A included at this point, so that readers will not be unnecessarily disturbed by the high tides. Possibly a better alternative would be to delete the second paragraph entirely and to add a sentence to the end of paragraph three giving project pad, street, and floor elevations for comparison.

The mitigation measures called for in Section C can be provided. Carl Neuhausen listed those studies that should be started now to meet the needs of permitting agencies in a letter requesting a proposal. I will prepare such a proposal shortly.

Sincerely,

*Ray B. Krone*

Ray B. Krone

RAY B. KRONE LETTER

501c. Comment noted.



# HARVEY & STANLEY ASSOCIATES, INC. <sup>C/</sup>

Ecological Consultants

June 8, 1983

Mr. Walden Williams  
W. R. Williams, Inc.  
2130 Main Street, Suite 230  
Huntington Beach, California 91648

Dear Walden:

Tom and I have reviewed the Draft E.I.R. for Cullinan Ranch. In the main, our principal concerns, as expressed in the letter of March 29, have been adjusted appropriately. There are a few questions and comments remaining. These remaining concerns are outlined below:

- 502 - Page 64, paragraph 3, line 11. "Both the California Department of Fish and Game (DFG) and the U.S...."

To our knowledge, there is no official policy which considers "diked agricultural fields, in general, to be seasonal wetlands..." Many such areas are indeed seasonal wetlands, and many have significant value for wintering waterfowl. However, it is important to relate that the precise definition of seasonal wetland is unclear. In that the Cullinan Ranch has a system of drainage canals and pumps which functioned during this past year in an extremely efficient manner (in spite of the heavy rains), it is questionable to attempt to classify the entire ranch as a "seasonal wetland," as this sentence implies.

- 503 - Page 70, paragraph 4, line 7. "It therefore appears questionable whether the site could be restored to a productive salt marsh..."

Here we are in agreement with the E.I.R. If the site is used for long-term dredge disposal, its value in terms of marsh restoration is limited. As we have discussed, once the extent of marsh restoration is determined, a plan covering that restoration will need to be devised which takes into account tidal elevations, erosion, and a variety of other factors.

- 504 - Page 71, paragraph 5, line 9. "This impact could be significant if the additional..."

Please see our previous discussion. The concerns with respect to avian mortality should be better delineated and documented.

RECEIVED JUN 11 1983

- Page 73, paragraphs 2 and 3.

505 These paragraphs dealing with the secondary effects on wildlife outline the dilemma quite well. Optimally, in terms of wildlife value, hunting and access would be restricted from the levees. However, general access agreements and the historical hunting in the area may have precedence. Again, these are issues which will have to be thoroughly addressed in designing any vegetation restoration/wildlife enhancement programs for the area.

- Page 74, paragraph 5.

506 As we have repeatedly stated, we would be happy to participate in a H.E.P. analysis, and lend our considerable data base to the analysis should it be deemed appropriate.

Sincerely,

Ronald Duke

Ronald Duke  
Wildlife Ecologist

RD/me

Harvey & Stanley Associates

**LETTER # HARVEY & STANLEY**

502. Comment noted. See response to comment 451.

503. Comment noted.

504. It is not known to which "previous discussion" Harvey and Stanley Associates is referring to in this comment. Additional information regarding heights of bird flights and avian mortality has been added to the Vegetation and Wildlife section of the Final EIR/EIS. See response to comments 46 and 288 regarding avian collisions with man-made structures and potential changes in the patterns of avian movement due to the proposed project.

505. Comment noted. See comment 291 regarding changes in hunting and fishing access along Dutchman Slough.

506. Comment noted. See response to comment 300 regarding HEP analyses.

OBERKAMPER & ASSOCIATES

CI

CIVIL ENGINEERS, INC.

10 PAUL DRIVE

SAN RAFAEL, CALIF. 94903

(415) 479-8662

June 24, 1983  
Job No. 126-83

W. R. Williams Inc.  
2130 Main Street  
Huntington Beach, CA 92648

ATTN: Mr. Carl Neuhausen

RE: Draft EIR  
Cullinan Ranch

Dear Carl:

507

As requested, I have reviewed the Draft EIR and have a few comments.

1. On Page S7 and Page 41 there is comment about extending storm drains to the main channel at the ends of the peninsulas. This would present some significant difficulties because of the length of these runs and the required hydraulic gradient.
2. On Page S7 and elsewhere, there seems to be concern about the disposal of dredge spoils. It occurs to me that it may be possible to use this material in a sanitary land fill operation as inert cover material.
3. There seems to be considerable emphasis on the Napa airport with respect to noise and safety. On Page 2 reference is made to the FAA giving a permit, however it is not mentioned anywhere else and I wonder if that is really the case. On Page 22, it refers to the property as being in the "main approach pattern". This is only true for instrument approaches. Most of the air traffic approaches from other directions and does not affect the Cullinan Ranch. Normal departure routes involve a 45° turn and don't pass over the Cullinan Ranch. I cannot imagine anyone mistaking multiple rows of street lights for runway lights, particularly when the property is more than five miles from the airport.
4. On Page 13, it talks about dry farming since the late 1800's and diking in the early 1900's. This does not seem consistent to me, and could be of some consequence given the 1899 date of the Corps Section 10 jurisdiction.

W. R. Williams Inc.  
ATTN: Mr. Carl Neuhausen  
Draft EIR, Cullinan Ranch

June 24, 1983  
Job No. 126-83  
Page 2

5. On Page 29, the datum relationship of 0 MLLW = (-3.66) NGVD is not consistent with the information I received from the City, which would make 0 MLLW = (-2.61) NGVD. On Page 33, this difference is indicated as being 3.1 feet.

If there are questions regarding any of this or if you need anything further, please let me know.

Very truly yours,

OBERKAMPER & ASSOCIATES  
CIVIL ENGINEERS, INC.

  
E. B. Oberkamper  
President

LEO:ksh

cc: Paul A. Moote

OBERKAMPER LETTER

507. Comments noted.

M I N U T E S

1. The meeting was called to order at 7:45 p.m.
2. The Pledge of Allegiance to the Flag was given.
3. ROLL CALL: Present: Palmaffy, McGrogan, Burns, Sessler, King,  
Thurston and Travers  
  
Absent: None
4. The minutes of the meeting of June 21, 1983 were approved as mailed  
by order of the Chair.

5. COMMUNICATIONS:

Chairman Sessler intorduced Ann Merideth as the new Assistant Planning Director, and Mike Palmaffy as the new Planning Commissioner.

Chairman Sessler explained the procedure in which the meeting was going to be conducted for the evening and explained the cards that were being handed out were to be filled out by those who wished to speak on tonight's agenda item, the Draft EIR/EIS for Cullinan Ranch, and by filling out a card tonight they would be able to speak on the Final EIR/EIS.

6. COMMITTEE REPORTS: None
7. CHAIRMAN'S REPORT: None
8. PLANNING DIRECTOR'S REPORT:

Ms. Merideth read a letter from Business Development and Planning Director Hal Boex on the Cullinan Ranch EIR/EIS regarding additional information in the fiscal section and the fact it would be available for review in the Final EIR/EIS.

9. APPEAL RIGHTS

Under the direction of Chairman Sessler, Section 16.102.020 of the Zoning Ordinance No. 558 N.C. (2d), pertaining to appellate rights of aggrieved parties with respect to the Planning Commission decisions, was read to those present at the meeting.

The applicant or any party adversely affected by the decision of the Planning Commission may within ten (10) days after the rendition of the decision of the Planning Commission appeal in writing to the City Council. The City Council may affirm, reverse or modify any such decision. The Council may summarily reject any appeal upon determination that the appellant is not adversely affected by a decision under appeal.

NEW BUSINESS

10. PUBLIC HEARING ON THE DRAFT EIR/EIS FOR CULLINAN RANCH.

Commissioner Sessler said the Planning Department has distributed copies of the EIR to fifteen Federal agencies, ten State agencies, twenty regional, city and county agencies, including one newspaper, nineteen local agencies including two newspaper, fourteen different organized groups, three legislators (one Federal, one State Senator, and one State Assemblyman), and there letters of notification of the existance of the EIR were sent to forty-six different individuals and organizations. The EIR is available for review at the John F. Kennedy Library, the Marin Civic Center Library, the Berkeley Public Library, Napa Public Library, Army Corps of Engineers Office, Solano Community College Library and the Vallejo Planning Department.

**A-1**

Arthur L. Braitto, 1017 Lewis Avenue, expressed his feelings against the project. He was concerned with the loss of wildlife and farmlands.

**A-2**

Diane Parsons, 366 San Marcus Drive, Vallejo, said she was not opposed to the project, her main concern was that there was not a high school proposed for this area. She said she did not want an impact on the schools in Vallejo.

**A-3**

Henry Watson, 562 Hichborn Street, Vallejo, asked if the Commission had received his letter and if so he would not take up any time. Chairman Sessler said his letter was received. Mr. Watson made mention of the settlement of the soils in the area being a historic problem.

**A-4**

Peter Ouborg, 2127 McGee, Berkeley, representing the Sierra Club, said he was asked by the Sierra Club to examine the soil engineering aspects of the Draft EIR. Mr. Ouborg said he was an engineer in training. He discussed the shore line and fill per acre. He also discussed the second settlement, peat and differential settlement.

**A-5**

Doris Sloan, 1327 Josephine Street, Berkeley, representing the Save San Francisco Bay Association, said she was a geologist and taught Environmental Science at U.S., Berkeley. Ms. Sloan said there were two issues in the Draft EIR that concerned her: the effects of ground shaking and the potential of liquidfaction at this particular site. She said the Draft EIR did not address these issues adequately, and she felt the Draft EIR should not be certified until these points were addressed.

**A-6**

Susan Smith, 1730-A Jones Street, San Francisco, representing the Wetlands Coalition, said she sent her first set of comments on May 27, 1983 and had brought additional comments. She spoke on the high cost of housing and the loss of wetlands.

**A-7**

Bryan Wilson, P.O. Box 925, Berkeley, representing Save San Francisco Bay Association, stated they had already submitted comments. He said their main concern is that the Draft EIR does not adeuately address alternative to the proposed project, growth inducing impacts, impacts to the project on the entire region, marsh restoration on the site and filling and dredging.

- A-8** Jim Pacht, 6064 Monroe, Oakland, representing the Sierra Club, said he was an attorney in private practice in Alameda. Mr. Pacht discussed Vallejo's need for middle income housing and the effect the project would have on the surrounding environment. He said the cost of future lawsuits would fall on the City.
- A-9** Salem Rice, 433 Lovell Avenue, Mill Valley, said he was a geologist, recently retired from the State of California. Mr. Rice said he did a great deal of study of bay mud and the history of development on bay mud. Mr. Rice recommended that Alternatives A, B and C be rejected.
- A-10** John Winther, 12 El Sereno Road, Orinda, representing the California Waterfowl Association, said his organization favored the preservation of marsh habitat. Mr. Winther said he had submitted comments. He felt the final report should include a study of the potential for increase salinities and the resultant impact of all wildlife.
- A-11** Una Baxley, 732 Wilson Avenue, Vallejo, questioned the increase of traffic and how it would effect Wilson Avenue. She opposed the project because of the traffic impact and environmental problems it would bring.
- A-12** Ralph Lee, Public Works Department, Mare Island, Vallejo, discussed the water problems and the problems of schools. Commissioner Sessler asked Mr. Lee if he was the official representative for Mare Island. Mr. Lee said he was the Environmental Issue Coordinator and the comments that he has given at the meeting would be what he is going to use to draft comments along with other people's comments involved with the project for Mare Island Naval Shipyard.
- A-13** Charles Hubbard, 404 Nebraska Street, Vallejo, representing the Napa-Solano Building Trades, was concerned with the 3,000 jobs this project will supply the young people who are in the apprenticeship programs and that need the work.
- A-14** Joanne Castro, 114 Coombs Lane, Vallejo, was concerned with the cost to present residents for the development of this project.
- A-15** Barbara Mankes, 425 Gonzaga Avenue, Vallejo, representing the League of Women Voters of Aolano County, said the League did submit a letter, and she had a few additional comments.
- A-16** Frank Ernst, Jr., P.O. Box 3009, Vallejo, spoke on the agricultural land and the proposed project.
- A-17** Frank Ernst III, P.O. Box 3009, Vallejo, felt the primary concerns of the project were national security, in terms of Mare Island Naval Base, Highway 37, and allowing the people of Vallejo maximum unit usage.
- A-18** Francesca Demgen, 118 Mississippi Street, Vallejo, Biologist, spoke on the hydrology section in the Draft EIR and the Water Quality Section. Ms. Demgen discussed her concerns on the tide gate and the fact it would not be installed until Phase 3 or 6. She also discussed possible water quality problems.

**A-19** Barbara Slazman, 48 Ardmore Road, Larkspur, representing the Marin Audubon Society, said her organization mailed a letter with their comments. Ms. Slazman gave a brief summary of the letter.

**A-20** Anne Marie Shanks, 49 Golden Hind Passage, Corte Madera, representing the Marin Conservation League, said her organization also submitted a letter and she high-lighted some of their concerns.

**A-21** Yvonne Barker, 244 American Canyon Road #22, Vallejo, passed on speaking on the project in the interest of time.

**A-22** Genevieve Sears, 141 Terrybrook Court, Vallejo, representing the Napa-Solano Audubon Society, said she was deeply troubled about the traffic hazard along Highway 37 because of the impact of converting Cullinan Ranch into a boating community. Sears Point Road is one of the most hazardous in Solano County. Ms. Sears gave a traffic accident report for the past six years on Sears Point Road.

**A-23** Everett Rolff, 407 El Camino Real, Vallejo, said he was concerned with certain things that had to do with economics. Mr. Rolff gave a brief summary of his letter which he passed out to the Commission.

**A-24** Bob Berman, 250 West "K" Street, Benicia, questioned the City's Sphere of Influence extension by LAFCO that covered the Cullinan area. He asked that a review be done of the letter of June 11, 1982 to the City of Vallejo from the Solano County Planning Department, and also the July 9, 1982 letter to the Solano County LAFCO from BCDC. He felt that each point raised in these letters must be responded to. Mr. Berman spoke on land fill, noise, sewer capacity, and made specific comments regarding the economic and fiscal sections of the Draft EIR.

**A-25** Carmen Browne, 197 Curtis Drive, Vallejo, said she has been a Vallejo resident for the past six years, and she had lived in Marin County previously for six years. She said she opposed the possible construction of Cullinan Ranch. Ms. Browne discussed the sound barrier which would be constructed along Highway 37 and felt it would cause changes to the scenery along the highway.

**A-26** James Reusswig, 406 Skyline Drive, said he submitted a card to reserve the right to speak on the Final EIR and that most of his comments were given already.

**A-27** James Gray, 731 Napa Street, Vallejo, Registered Civil Engineer, had no vested interest in the project other than he had some knowledge of difficulties and complexity of the project discussed in the Draft EIR. He said he submitted his comments to the Commission, and his primary point is that this project is a complicated and expensive project to build and maintain. The main comment he wanted to bring out is the settlement analyses are inadequate due to the lack of data on peat compressability. One other consideration he requested for the Final EIR in the Soils Section is the foundation requirements for the three schools that are proposed for this development.

- A-28** Richard Lemke, 602 Georgia Street, Vallejo, resented the attitude of people coming in from other communities voicing their objections on the proposed project.
- A-29** Robin Leong, 336 Benson Avenue, Vallejo, discussed problems with our present utilities. Mr. Leong was also concerned with the traffic problems the project could cause.
- A-30** Bob Dunn, 241 Georgia Street, Vallejo, representing the Vallejo Chamber of Commerce, said the Chamber of Commerce does support the proposed development. Their reason for support of this type of development deals with the fact that they believe Vallejo presently has an imbalance in the type of housing proposed and that will appeal to prospective residents of this community. He made mention of Mare Island being built on the same type of fill land.
- A-31** Bill Dendas, 806 Brookwood Avenue, Vallejo, said he was for this type of development in our city. He said he wanted to put a balance in the average invomr in Bsllrjo. Mr. Dendas said it is time we look toward the development that will bring the type of people that will vitalize and help the downtown area so it will grow again. He felt the downtown area could not grow without the increase in our population.
- A-32** William Davoren, 508 Pasadise Drive, Tiburon, representing The Bay Institute of San Francisco, felt the Draft EIR was not adequate. He said he has had experience with EIR's. He said it did not treat the regional affects of the project properly. Mr. Davoren said the Draft EIR deals in terms of units and acres.
- A-33** Roger Johnson, P.O. Box 524, Newark, representing U.S. Fish & Wildlife Service, and a supervisor of the San Pablo National Refuge, said the official and formal comments from the Fish & Wildlife Service were submitted. Mr. Johnson said he was not here to speak for or against the project, he just wanted to point out that living in Newark he was a concerned neighbor.
- A-34** Carl Neuhausen, 2130 Main Street, Suite 230, Huntington Beach, representing the developer, W.R. Silliams, said he would like to reserve the right to speak on the Final EIR.
- A-35** John Powers, City Attorney, said during the public review period for this Draft EIR commentary about the Draft EIR on the section dealing with economics and fiscal impact came from the developer and the City Manager's staff taking issue with some of the findings dicussion that appeared in that section. As a result of the consultant, Irina Torrey has commenced the process of responding to that commentary very much in the same fashion that she will take to respond to the commentary that has been made this evening. Also the commentary which appears in written correspondence addressed to the Commission, and written correspondence that still may be submitted up to July 11, about the Draft EIR. Mr. Powers said as he looks at it the people who have spoken or have addressed comments to the Draft EIR will have an opportunity to address

their further comments to the responses that the consultant will put together on this fiscal or economic impact section of the draft at the time the Final EIR is submitted. He said that looking at the State Guidelines the economic and fiscal section of the Draft EIR is a discretionary or optional feature of the document and it is not a mandatory element of the Draft EIR. He said if we handle the process in the fashion as pointed out by Mr. Boex in his opening letter, we will satisfy the public opportunity to respond to the report.

**A-36**

I. P. Torrey, EIR Consultant for Cullinan Ranch, said she would like to make a correction in the City Attorney's statement. The revision of the fiscal section is not the same as any comment that was made on the EIR/EIS. Basically, what has happened here was a comment by the developer. He has released additional information which therefore will change some of the assumptions made and some of the analyses in the fiscal section. This is to be interpreted as supplemental information. Because this supplemental information is not required by CEQA, it is the opinion of the Office of Planning and Research that it does not have to be circulated again as part of a Draft EIR/EIS but can be circulated as part of the final EIR/EIS. Ms. Torrey said they would be responding to all of the comments that have been received.

Mr. Powers asked Ms. Torrey when would this particular information be available to the public.

Ms. Torrey said it had been planned to be included in the Final EIR/EIS, and it is not going to be made available separately. At this time, she did not have a date for the final report.

**A-37**

Cynthia Kay, 101 Coughlan Street, Vallejo, asked if when the Final EIR is released, is that the time the public will review the altered section on the financial section. She wanted to know if that would be at the public hearing or will the response be in writing.

Ms. Torrey said there is a number of days that a Final EIR has to be circulated before it can be certified but there is a number of days it has to be circulated to the public and if there is still some concern with it, it is answered at a public hearing. Certification will follow when the public body decides all the questions have been adequately answered.

Mr. Powers said there does not appear to be any mandated public review period for a final EIR. However, in this case, he will recommend a thirty day public review period to allow adequate review of the Final EIR.

---

There being no further business to discuss, the meeting was adjourned at 11:45 p.m.

Respectfully submitted,

*Harold Boex*

HAROLD A. BOEX  
Secretary

Persons Testifying at the Public Hearing

- A-1. Mr. Braito submitted written comments; see response to comment 4.
- A-2. See comment 254.
- A-3. Mr. Watson submitted written comments; see response to comments 5-7.
- A-4. Mr. Ouborg submitted written comments; see response to comments 122-134.
- A-5. Ms. Sloan submitted written comments; see response to comments 96-99.
- A-6. Ms. Smith submitted two sets of written comments; see response to comments 198-218 and 219-220.
- A-7. Save San Francisco Bay Association submitted written comments; see response to comments 185-190.
- A-8. The Sierra Club submitted written comments; see response to comments 146-152.
- A-9. Mr. Rice submitted written comments; see response to comments 61-63.
- A-10. Mr. Winther submitted written comments; see response to comments 191-197.
- A-11. Section III.H. of the Final EIR/EIS discusses traffic impacts.
- A-12. Mare Island Naval Shipyard submitted written comments; see response to comments 407-413.
- A-13. Comment noted; no response necessary.
- A-14. Ms. Castro submitted written comments; see response to comments 30-38.
- A-15. The League of Women Voters of Solano County submitted written comments; see response to comment 174.

- A-16. Please refer to response to comment 21.
- A-17. Comment noted; no response necessary.
- A-18. Ms. Demgen submitted written comments; see response to comments 86-95.
- A-19. Ms. Salzman submitted written comments; see response to comments 160-167.
- A-20. The Marin Conservation League submitted written comments; see response to comments 168-173.
- A-21. Comment noted; no response necessary.
- A-22. Please see comments 10 and 86.
- A-23. Mr. Rolff submitted written comments; see response to comments 17-29.
- A-24. Mr. Berman submitted written comments; see response to comments 64-72.
- A-25. Comment noted. The visual impacts of and a proposed mitigation for the noise wall are discussed in the Final EIR/EIS on page 77.
- A-26. Comment noted.
- A-27. Mr. Gray submitted written comments; see response to comments 39-43.
- A-28. Comment noted.
- A-29. Please refer to comments 18 regarding utilities and 10 concerning traffic.
- A-30. Comment noted; no response necessary.
- A-31. Comment noted; no response necessary.
- A-32. Mr. Davoren submitted written comments; see response to comments 154-159.

**A-33. The US Fish and Wildlife Service submitted written comments; see response to comments 386-406.**

**A-34. The developer's written comments have been responded to; see responses 422-472.**

**A-35. Comment noted.**

**A-36. Comment noted.**

**A-37. When the Final EIR/EIS is completed it will be available for public inspection at the City of Vallejo Planning Department and at the Corps of Engineers office in San Francisco. It will include a revised Economics/Fiscal section. The Final EIR/EIS will also be discussed at a certification hearing when the project comes before the Planning Commission for decision.**

END

FILMED

7-84

DTIC