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February 28, 1997

HAND DELIVERED

URGENT

Susan Hugo
Alameda County Health Care Services Agency
Hazardous Materials Division
1131 Harbor Bay Parkway
Alameda, CA 94502

Re: Croley & Herring Investment Company
Site: Good Guys
5800 Christie Avenue, Emeryville, California

Dear Ms. Hugo:

Enclosed is Croley & Herring Investment Company's Request for Final Closure and Groundwater Monitoring Report.

As you know, Croley & Herring has been in litigation for the last two years with its tenants and the adjacent property owner, Lathrop Construction with regard to the remediation of contamination on the property. Your office has granted closure with respect to the chlorinated solvents which has resulted in a settlement with the tenants. However, closure has not yet been granted with respect to the BTEX constituents. Closure with respect to the BTEX constituents is necessary for Croley & Herring to conclude its settlement with Lathrop Construction.

The foregoing report we believe presents significant evidence that after seven years of groundwater monitoring, the levels of BTEX constituents are declining, and do not pose any health risk.

Please review this request for final closure as soon as possible.

Very truly yours,

WENDEL, ROSEN, BLACK & DEAN, LLP

Christine K. Noma

CKN:pmm

cc: Sum Arigala

REQUEST FOR FINAL CLOSURE

AND

GROUNDWATER MONITORING REPORT

5800 CHRISTIE AVENUE,
EMERYVILLE, CALIFORNIA

JANUARY 1997

SUBMITTED TO:

MS. SUSAN HUGO
ALAMEDA COUNTY HEALTH CARE SERVICES
HAZARDOUS MATERIALS DIVISION
1131 HARBOUR BAY PARKWAY,
ALAMEDA, CALIFORNIA 94502

PREPARED FOR :

CROLEY & HERRING INVESTMENT COMPANY
353 BEACON RIDGE LANE,
WALNUT CREEK, CALIFORNIA 94596

PREPARED BY:

ETS ENVIRONMENT & TECHNOLOGY SERVICES
2081 15TH STREET,
SAN FRANCISCO, CALIFORNIA 94114
TELEPHONE: 415-861-0810
FACIMILE: 415-861-3269

ETS *ENVIRONMENT & TECHNOLOGY SERVICES*

2081 15TH STREET, SAN FRANCISCO, CALIFORNIA 94114
PHONE 415-861-0810 *FAX 415-861-3269*

February 5, 1997

Mr. Dick Herring
President
Croley & Herring Investment Company
353 Beacon Ridge Lane,
Walnut Creek, California 94596

Subject: Request for Final Closure and
Groundwater Monitoring Report January 1997
5800 Christie Avenue, Emeryville, California

Dear Mr. Herring:

Enclosed please find a copy of the request for final closure, and semi-annual groundwater monitoring report for the January 1997 sampling period at the subject facility. The subject groundwater monitoring event was requested by Ms. Susan Hugo of Alameda County Health Care Services in her letter of September 18, 1996.

Please contact me if you have any question about this report.

Sincerely,

Walter W. Loo, RG CEG CHG
President

CC: Mr. Sum Arigala, San Francisco Bay Area RWQCB
Ms. Susan Hugo, Alameda County Health Care Services

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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

Croley and Herring Investment Company ("CHIC") retained Environmental and Technology Services ("ETS") and its predecessors to perform soil and groundwater remediation for a site located at 5800 Christie Street, Emeryville, California. The site is currently occupied by an electronic merchandise retailer, The Good Guys.

ETS conducted remediation activities on the site, and has been conducting quarterly and semiannual groundwater monitoring for the facility since 1989. On September 30, 1996, the Alameda County Health Care Services Agency ("ACHCS") with the concurrence of the San Francisco Bay Regional Water Quality Control Board ("RWQCB") on November 11, 1996, granted no further action status with regard to remediation and groundwater monitoring for **chlorinated solvents**.

However, the ACHCS continued to require groundwater monitoring for total petroleum hydrocarbons, gas ("TPHg"), benzene, toluene, ethylbenzene and xylene ("BTEX") based upon the elevated levels of benzene and toluene which remained in the groundwater.

This report includes CHIC'S semiannual groundwater monitoring report along with a request for closure based upon the monitoring results.

A Draft Request for Closure had previously been made by CHIC in August, 1996. The Draft Request was denied because of the elevated levels of benzene found in well MW-4 and toluene in well EW-1. ACHCS' response to the Draft Request for Closure was to require continued semiannual groundwater monitoring of TPHg and BTEX constituents.

The semiannual groundwater monitoring results over the last seven years show a declining trend in the levels of benzene and toluene. The levels of benzene (.659 ppm in MW-4) is at a level that would be considered a low level health risk pursuant to the proposed State Water Resources Control Board Policy for Investigation and Cleanup of Petroleum Discharges to Soil and Groundwater, Resolution No. 1021b. A copy of the Policy is attached as Appendix C. The level of toluene (3.22 ppm in EW-1) while above drinking water standard is not a significant risk because the groundwater at the site is recognized as not being a viable source of drinking water. See further discussion below. Accordingly, ETS recommends no further action with respect to further groundwater monitoring at the site.

2.0 SUMMARY OF PAST REMEDIATION ACTIVITIES

Soil contamination was identified at the site in late 1988/early 1989. An investigation was conducted as to the extent of the contamination, and it was determined that the contamination was localized in a narrow alleyway behind the building at the site. The contaminated soil along the narrow alleyway was removed to a depth of approximately 5

feet. However, residual contaminated soil underlying the building was not removed due to safety concerns. The excavated soil was remediated on-site and properly disposed of with the approval of ACHCS. See Soil Remediation and Closure Report dated July 21, 1989.

A Vapor Extraction System (VES) was installed immediately adjacent to the northeastern side of the building to remediate the residual volatile hydrocarbons contained in the soil. The residual Volatile Organic Chemicals (VOCs) were remediated from an average concentration of about 660 ppm to a satisfactory level at an average of .82 ppm in soil. A Soil Closure Plan was submitted dated November 15, 1991, and approval of soil closure was received on January 21, 1992, after submittal of confirming soil sampling results.

The Soil Vapor Extraction System was decommissioned and the Bay Area Air Quality Management District was notified on December 16, 1991. The final VES Closure Report was completed on August 29, 1992.

An Indoor Vapor Monitoring System, Sierra Monitor Model 5000 was installed by The Good Guys electronic store in 1989 through March 1993. No significant levels of methane were detected for the monitoring period. The Vapor Monitoring System was disconnected in March 1993 with the concurrence of Brian Oliva of ACHCS on March 5, 1993. Refer to Draft Closure Request dated August 1996 for further details.

In late 1992, ETS initiated an In-Situ Groundwater Biotreatment System in the vicinity of EW-1. The biotreatment system was effective on the treatment of chlorinated solvents which were treated to nondetect on the January 1994 Monitoring Report. The groundwater remediation activity ended in late 1993.

The In-Situ Groundwater Biotreatment System was implemented through electrolysis, electro-osmosis and electrochemical processes. A full report of the electrochemical treatment and the biotreatment processes is set forth in the Groundwater Remediation Progress Report dated February 23, 1993 prepared by ETS.

As part of the site activities, a Groundwater Monitoring Program was implemented. Previous quarterly groundwater monitoring events were conducted on November 6, 1989, February 20, 1990, May 30, 1990, September 7, 1990, December 4, 1990, April 16, 1991, July 3, 1991, December 12, 1991, July 26, 1992, April 8, 1992, July 15, 1992, October 19, 1992, January 11, 1993, March 29, 1993, July 7, 1993, October 8, 1993, January 19, 1994, January 25, 1995, September 18, 1995, January 29, 1996, March 25, 1996 and July 11, 1996.

The results of the most recent groundwater monitoring events conducted on January 21, 1997, are summarized in Tables 3 and 4. The results from earlier monitoring events can be found in the Draft Request for Closure dated August 1996.

After seven years of monitoring, and after demonstrating a definitive declining trend in the levels of chlorinated solvents, closure was granted by the ACHCS by letter dated September 30, 1996, for chlorinated solvents. The RWQCB concurred with the closure with respect to chlorinated solvents by letter dated November 15, 1996.

3.0 SUMMARY OF JANUARY 21, 1997 GROUNDWATER MONITORING

This report presents results of the groundwater monitoring event conducted on January 21, 1997, for wells EW-1 and MW-4 including laboratory analytic results, groundwater movement analysis and summary of findings.

3.1 Groundwater Movement Analysis

The groundwater gradient at the site has consistently been in a southerly direction, with slight variations to the east or west.

Prior to sample collection, the depth to the water table in each of all existing monitoring wells were measured for analysis of groundwater movement. Table 1 presents a summary of the water levels in the three wells (EW-1, MW-2, MW-4) from the groundwater monitoring event conducted by ETS.

The water level measurements taken on January 21, 1997, were higher in elevation than the measurements taken on July 30, 1996. This can be expected due to the heavy rainfall occurring in January. The groundwater flow direction remained in the same general direction, flowing towards the south (Figure 2). The hydraulic gradient was 0.0094 feet per horizontal foot.

Groundwater movement across the facility remains in a similar pattern as compared to previous sampling events. Data on flow direction and hydraulic gradient are summarized in Table 2.

Based upon the current groundwater flow, since July 1996, MW-4 is directly down gradient of EW-1.

3.2 Groundwater Quality

On January 21, 1997, ETS field personnel visited the site and collected water samples from wells EW-1 and MW-4. These groundwater samples were sent to a State certified laboratory for analysis of total petroleum hydrocarbons gasoline ("TPHg") and gasoline constituents, benzene, toluene, ethylbenzene and total xylenes ("BTEX") using EPA Method 5030/8020.

3.2.1 Well EW-1

From the results of the laboratory analysis (Appendix A), water samples taken from well EW-1 contained TPHg at 30 ppm. Slightly elevated levels of benzene found just above the detection limit at 0.007 ppm. Toluene was present at 3.22 ppm. Xylene (.055 ppm) and ethylbenzene (.012 ppm) were below the Federal drinking water maximum contaminant levels (MCL). No traces of MTBE were present. Table 3 summarizes the results of the groundwater quality found at EW-1.

While the level of benzene in EW-1 was slightly above the detection limit, the groundwater collection data for the previous five monitoring events were at ND, and the trace levels of benzene are not considered significant, and is most likely the result of trace amounts of benzene left in the soil column.

The toluene levels have fluctuated over the years from a high of 11 ppm on October 8, 1993 to a low of .55 ppm on March 25, 1996 to the most recent level of 3.22 ppm. The likely explanation for the fluctuations is that residual toluene remains in the soil, as there is no known current source of the toluene. The current tenant, The Good Guys, operates a retail store and engages in no manufacturing or industrial activities. The significantly lower levels of TPHg and toluene in MW-4 (the down gradient well), as compared with EW-1, demonstrates that natural biodegradation is occurring on the site. The toluene level has **decreased by 45%** from the July 11, 1996 monitoring event. This supports a conclusion that natural bioremediation is on-going.

3.2.2 Well MW-4

The results of the laboratory analysis (Appendix A), water samples taken from well MW-4 contained TPHg at 2.48 ppm, benzene at .659 ppm, toluene at .095 ppm, xylene at .104 ppm and ethylbenzene at .058 ppm. No traces of MTBE were present. The benzene levels **decreased by 23%** against the previous July 11, 1996 monitoring event.

3.2.3 ORC Remediation

In December 1996, CHIC began to enhance the passive bioremediation of groundwater occurring at EW-1 and MW-4 by placing oxygenated remediation compounds ("ORC") in the wells. The ORC is contained in "socks" and slowly releases oxygen into the groundwater in order to enhance bioremediation. Literature and information relating to the ORC technique is contained in Appendix B.

At the January 21, 1997 monitoring event, the dissolved oxygen in the groundwater was 5.0 ppm in EW-1 and 4.0 ppm in MW-4. The range of dissolved oxygen in the groundwater typically ranges from 0 ppm to 12-13 ppm. The level of dissolved oxygen in the groundwater, even as enhanced by the ORC compound was in the lower end of normal. According to Regensis, the company that manufactures the ORC material,

groundwater with no pollution, after a rainfall would typically range in the 7-9 ppm level. The level of dissolved oxygen in the groundwater confirms that bioremediation is occurring.

3.2.4 Sampling Protocol

In order to ensure that the ORC did not interfere or otherwise distort the groundwater samples taken for TPHg and BTEX, ETS removed the ORC material from the wells and allowed the groundwater to regenerate for one-half hour. Thereafter, approximately five to seven gallons of groundwater were bailed from each well, approximately one casing per well. After the surrounding groundwater stabilized, the groundwater samples were taken.

Based upon the sampling procedures undertaken, the results of the groundwater sampling should not have been distorted in any by the ORC material which had been in the wells.

4.0 RECOMMENDATIONS FOR CLOSURE

Based upon the documented declining trend of gasoline and its BTEX constituents in the groundwater at the site, which declining trend has been documented over the last seven years and documented evidence of natural bioremediation, ETS recommends the site for full closure.

Well EW-1 should be closed based upon negligible levels of contaminants in the groundwater. The benzene levels have historically been either nondetect or, in the most recent monitoring event, just above the detection limit at .007 ppm. The toluene level has decreased by 45% since the last semi-annual event to 3.22 ppm. While the toluene level is above the Federal Drinking Water (MCL) Standard of 1 ppm, the groundwater at the site will not be used as a drinking water source. Refer to Risk Management Model for Accelerating Brownfield's Development Report dated November 16, 1995, page 2, attached as Appendix D. See further discussion below.

Well MW-4 should also be closed based upon the declining levels of benzene in the groundwater. While the current level of benzene remain above the Federal Drinking Water MCL, under the guidelines set forth in the proposed Policy for Investigation and Clean-Up of Petroleum Discharges to Soil and Groundwater, State Water Resources Control Board Resolution No. 1021b, Appendix C, this site qualifies as a low-risk groundwater case, as the benzene levels are below 1 ppm and the MTBEs are ND. The levels of toluene, xylene and ethylbenzene in MW-4 are all below the Federal Drinking Water MCL.

5.0 RATIONALE FOR DESIGNATION AS A LOW RISK GROUNDWATER SITE

While the ACHCS in response to CHIC's previous Draft Request for Closure dated August 1996 only conditionally granted closure as to the chlorinated solvents, since that request was made, the State Water Resources Control Board has published the Proposed Policy for Investigation and in the Clean-up of Petroleum Discharges to Soil and Groundwater, State Water Resources Control Board Resolution No. 1021b. The findings of the Policy states that contamination in drinking water wells due to petroleum discharges have been limited, and the health risk associated with leaving residual petroleum constituents in soil and groundwater is negligible. The proposed regulations indicate that a site be considered a low risk groundwater site if there are no surface water bodies or drinking water wells within 750 feet of the source of the discharge and the maximum concentration of benzene in groundwater effected by the discharge does not exceed 1 ppm, and there is no MTBE in groundwater exceeding 35 ppb.

The CHIC site is more than 750 feet from the San Francisco Bay, MTBE has been ND, and the benzene levels in all the groundwater monitoring wells are below 1 ppm.

The State Water Resources Control Board has also approved an Amendment to Resolution No. 92-49 "Policies and Procedures for Investigation and Clean-Up and Abatement under Section 1304 of the Water Code Regarding the Containment Zone Policy." That Amendment also recognizes that contaminants may be "contained."

The significant reduction in TPHg and toluene in the down gradient well MW-4 is evidence that the contaminants in the alleyway have been "contained."

Finally, the Emeryville area has been recognized by the EPA as a "Brownfield." In the application to the EPA, the City of Emeryville in cooperation with the Alameda County Department of Environmental Health, California Environmental Protection Agency/State Water Resources Control Board and the California Environmental Protection Agency/San Francisco Regional Water Quality Control Board, acknowledged that:

> **". . . given the history of industrial uses and landfill, the regulatory agencies assume that virtually all of the shallow groundwater in Emeryville's commercial/industrial areas is contaminated, and cannot be cost-effectively remediated to drinking water standards. (Exhibit "C" - Map of Brownfields and Landfill.)"**

CHIC's site falls within the Brownfield area, Exhibit "C" - Map of Brownfields and Landfill, and it is acknowledged that the water will not be used as drinking water.

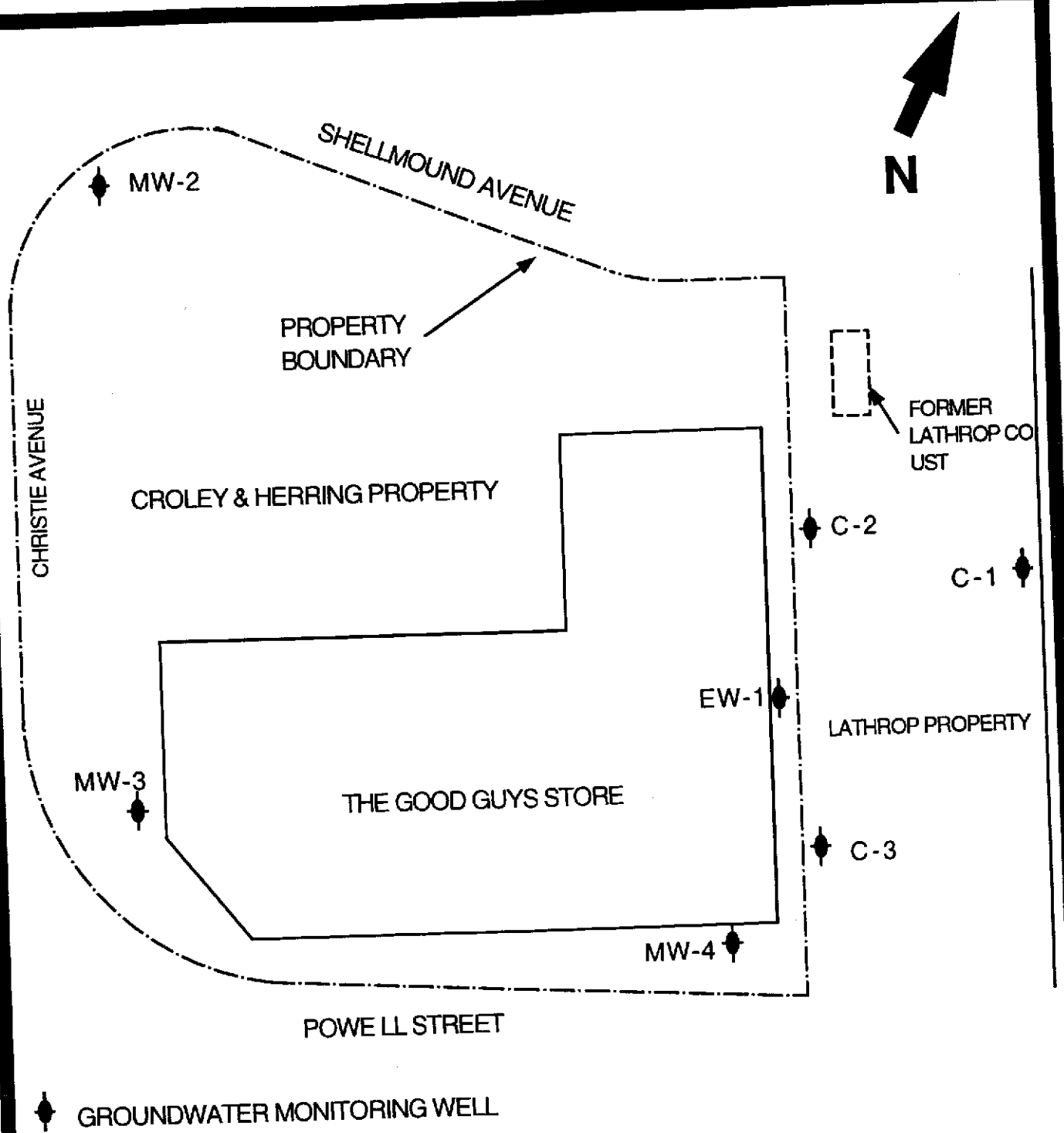
Seven years of groundwater quality data have been collected and developed on the site owned by CHIC, the Good Guys' property. The data developed shows a significant declining trend of benzene and other gasoline-related constituents in the groundwater in MW-4 since 1993. The declining levels of benzene in MW-4, at levels below the low risk groundwater 1 ppm level proposed by the SWRCB Resolution 1021b, Petroleum Contamination Guidelines, support closure of MW-4. The levels for toluene, ethylbenzene and xylene in MW-4 are all below the Federal Drinking Water MCL.

With regard to EW-1, the only remaining reason to require continued groundwater monitoring in EW-1 is presumably the elevated levels of toluene. The presence of benzene have consistently been either nondetect, or slightly above the detection limit (.007 ppm). The levels of xylene and ethylbenzene have all been well below the Federal Drinking Water MCL Standards. Toluene is listed by the EPA as a non-cancer agent, and the Federal Drinking Water MCL Standard for toluene is currently 1 ppm. While the level of toluene in the groundwater at EW-1 is above the drinking water level, it is a well-recognized fact that the water in the Emeryville area will not be used as a source of drinking water. (Refer to Brownfield's Report in Appendix C.)

6.0 CONCLUSION

Closure has already been granted to CHIC for contamination caused by the **chlorinated solvents**. With seven years of groundwater quality data, all evidencing a declining trend in gasoline, benzene and toluene, given (1) the current approval of Brownfield's development in the Emeryville area; (2) the adoption of containment zone policy; and (3) the anticipated adoption of Resolution 1021b, the SWRCB Policy for Investigation and Cleanup of Petroleum Discharge to Soil and Groundwater, site closure based upon the residual levels of benzene in MW-4 and the residual levels of toluene in EW-1 is recommended recognizing that the residual levels qualify the site as a low-risk groundwater site appropriate for closure.

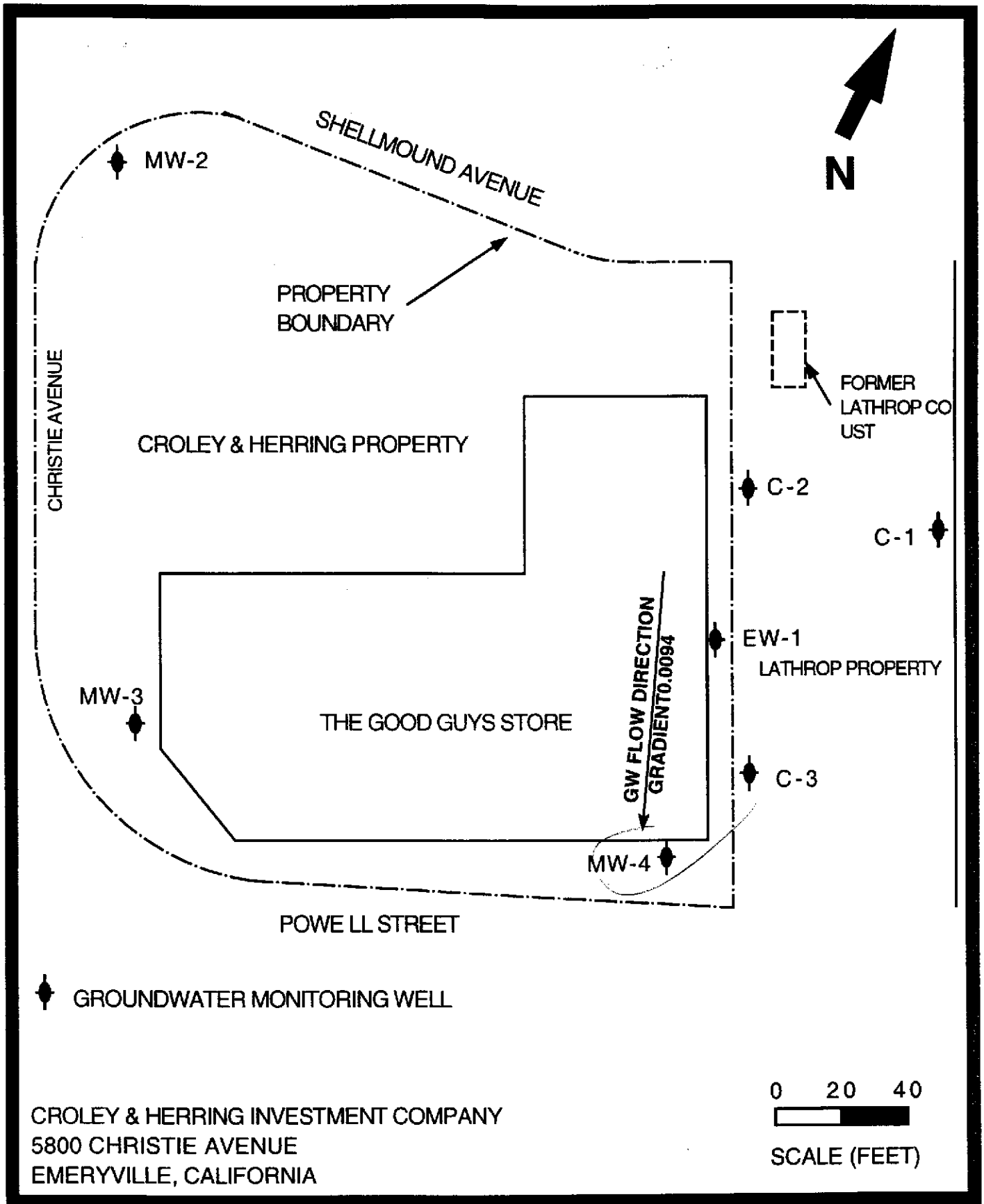
Closure and no further action status is, therefore, recommended for the site, along with the closure of the existing groundwater monitoring wells.



CROLEY & HERRING INVESTMENT COMPANY
5800 CHRISTIE AVENUE
EMERYVILLE, CALIFORNIA

ETS
ENVIRONMENT & TECHNOLOGY SERVICES

FIGURE 1
GENERAL SITE MAP



CROLEY & HERRING INVESTMENT COMPANY
5800 CHRISTIE AVENUE
EMERYVILLE, CALIFORNIA

ETS
ENVIRONMENT & TECHNOLOGY SERVICES

FIGURE 2
JANUARY 21, 1997
GROUNDWATER FLOW MAP

TABLE 1
SUMMARY OF GROUNDWATER LEVEL DATA

WELL	ELEVATION OF TOC	1/6/89		2/20/90		5/31/90		9/7/90		12/4/90		4/16/91	
		DTW	SWL	DTW	SWL	DTW	SWL	DTW	SWL	DTW	SWL	DTW	SWL
EW-1	8.62	6.15	2.47	5.93	2.69	5.86	2.76	6.30	2.32	7.39	1.23	6.02	2.60
MW-2	7.42	4.34	3.08	4.26	3.16	4.26	3.16	4.60	2.82	4.67	2.75	4.31	3.11
MW-3	6.42	5.10	1.32	5.42	1.00	4.93	1.49	5.15	1.27	5.96	0.46	5.25	1.17

WELL	ELEVATION OF TOC	7/3/91		10/14/91		1/9/92		7/15/92		10/19/92		1/11/93	
		DTW	SWL	DTW	SWL	DTW	SWL	DTW	SWL	DTW	SWL	DTW	SWL
EW-1	8.62	6.20	2.42	6.50	2.12	6.20	2.42	6.10	2.52	6.10	2.52	5.50	3.12
MW-2	7.42	4.52	2.90	3.92	3.50	4.43	2.99	4.42	3.00	4.77	2.65	2.90	4.52
MW-3	6.42	5.33	1.09	4.63	1.79	6.50	-0.08	5.23	1.19	5.37	1.05	3.60	2.82

WELL	ELEVATION OF TOC	4/19/93		7/13/93		10/15/93		1/19/94		1/4/95		9/18/95	
		DTW	SWL	DTW	SWL	DTW	SWL	DTW	SWL	DTW	SWL	DTW	SWL
EW-1	8.62	5.95	2.67	6.20	2.42	6.25	2.37	6.30	2.32	4.75	3.87	6.30	2.32
MW-2	7.42	4.35	3.07	4.70	2.72	4.25	3.17	4.90	2.52	3.57	3.85	4.70	2.72
MW-3	6.42	5.10	1.32	5.35	1.07	5.35	1.07	5.30	1.12	5.10	1.32	5.10	1.32
MW-4	7.07 (a)	NS	NS	5.75	1.32	5.80	1.27	5.75	1.32	6.10	0.97	6.90	0.17

WELL	ELEVATION OF TOC	3/25/96		NEWLY SURVEYED ELEVATION	7/30/96		1/21/97	
		DTW	SWL		DTW	SWL	DTW	SWL
EW-1	8.62	4.95	3.67	9.16	6.30	2.86	7.10	2.06
MW-2	7.42	3.50	3.92	7.41	4.74	2.67	2.99	4.42
MW-3	6.42	4.60	1.82	8.53	5.60	2.93	2.95	NS
MW-4	7.07 (a)	6.40	0.67	7.62	6.71	0.91	5.05	2.57

DTW : Depth to water table ***SWL*** : Static water level above MSL ***MSL*** : Mean sea level ***TOC*** : Top of casing ***NS*** : Not Sampled ***(a)*** : Adjusted elevation

TABLE 2

SUMMARY OF GROUNDWATER MOVEMENT ANALYSIS

DATE	FLOW DIRECTION	GRADIENT
4/25/89	SOUTHWEST	0.0010
11/6/89	SOUTH	0.0120
2/20/90	SOUTH	0.0160
5/31/90	SOUTH	0.0125
9/7/90	SOUTH	0.0115
12/4/90	SOUTH	0.0450
4/16/91	SOUTH	0.0140
7/3/91	SOUTH	0.0130
10/14/91	SOUTH	0.0110
1/9/92	SOUTHWEST	0.0238
7/15/92	SOUTH	0.0130
10/19/92	SOUTH	0.0127
1/11/93	SOUTH	0.0110
4/19/93	SOUTHWEST	0.0130
7/7/93	SOUTHWEST	0.0130
10/15/93	SOUTH	0.0153
1/19/94	SOUTH	0.0105
1/4/95	SOUTH	0.0280
9/18/95	SOUTHWEST	0.0176
3/25/96	SOUTHWEST	0.0177
7/30/96	SOUTH	0.0288
1/21/97	SOUTH	0.0094

TABLE 3

SUMMARY OF GROUNDWATER QUALITY WELL EW-1 (mg/L)

COMPOUND	7/7/93	10/8/93	1/19/94	1/25/95	9/18/95	1/6/96	1/29/96	3/25/96	7/11/96	1/21/97
TPH as gas	40	12	5	13	3.2	1.7	1.8	1.3	NA	30
BENZENE	ND	ND	0.022	0.026	ND	ND	ND	ND	ND	0.007
TOLUENE	3.6	11	4.3	5	0.62	1.2	1.1	0.55	5.87	3.22
XYLENES	ND	0.081	0.07	0.048	0.015	0.033	0.043	0.011	0.055	0.055
ETHYLBENZENE	ND	ND	0.012	0.009	ND	ND	ND	ND	0.013	0.012
MTBE	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND

ORC used

***NA** : Not analysed ***ND** : Non-Detected

TABLE 4

SUMMARY OF GROUNDWATER QUALITY WELL MW-4 (mg/L)

COMPOUND	7/7/93	10/8/93	1/19/94	1/25/95	9/18/95	1/29/96	3/25/96	7/11/96	1/21/97
TPH as gas	< 100	2.2	0.35	26	5.3	11	14	NA	2.48
BENZENE	0.8	0.29	0.21	1.4	0.57	0.75	1	0.86	0.659
TOLUENE	0.28	0.22	0.025	0.27	0.11	0.11	0.15	0.076	0.095
XYLENES	0.3	0.2	0.037	0.28	0.096	0.14	0.22	0.24	0.104
ETHYLBENZENE	0.27	0.12	0.035	0.56	0.16	0.24	0.38	0.13	0.058
MTBE	NA	NA	NA	NA	NA	NA	NA	ND	ND

***NA** : Not analysed ***ND** : Non-Detected

Table 5

SUMMARY OF GROUNDWATER QUALITY

DISSOLVED OXYGEN (DO) IN mg/L

ON 1/21/97

EW-1	MW-4
5.0	4.0

APPENDIX A

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: January 28, 1997

Mr. Dick Herring/Walter Loo
Croley & Herring Co.
353 Beacon Ridge Lane
Walnut Creek, CA 94596

Dear Mr. Herring:

The analytical results for the liquid samples (Project: CHIC), received by our Lab on January 22, 1997, are attached. The report also faxxed to Mr. walter Loo at (310)498-2479.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call Mr. John Ackerman, our Customer Service Specialist, or myself, if you have any questions.

Sincerely,

Steven Chen, Ph.D.
Lab Director

Hon Su
program Manager

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: CROLEY & HERRING CO., 353 BEACON RIDGE LANE, WALNUT CREEK, CA 94596 TEL(510)939-1118
PROJECT: CHIC
MATRIX: WATER
DATE SAMPLE REC'D: 01/22/97 (ETS)
DATE SAMPLED: _____
DATE ANALYZED: 01/22-27/97
REPORTED TO: MR. DICK HERRING
DATE REPORTED: 01/28/97
MR. WALTER LOO/ETS (FAX:310-498-2479) (415)861-3269

SAMPLE I.D.: MW-4 LAB I.D.: 970122-12

ANALYSIS: POLYNUCLEAR AROMATIC HYDROCARBONS, EPA METHOD 610

UNIT: uG/L (PPB)

PARAMETER	SAMPLE RESULT	D.L. X5
ACENAPHTHENE	95	5
ACENAPHTHYLENE	70	5
ANTHRACENE	ND	5
BENZO(a)ANTHRACENE	ND	5
BENZO(a)PYRENE	ND	5
BENZO(b)FLUORANTHENE	ND	5
BENZO(k)FLUORANTHENE	ND	5
BENZO(g,h,i)PERYLENE	ND	5
CHRYSENE	ND	5
DIBENZO(a,h)ANTHRACENE	ND	5
DIBENZO(a,e)PYRENE	ND	5
DIBENZO(a,h)PYRENE	ND	5
DIBENZO(a,i)PYRENE	ND	5
FLUORANTHENE	ND	5
FLUORENE	ND	5
INDENO(1,2,3-cd)PYRENE	ND	5
NAPHTHALENE	3,900	5
PHENANTHRENE	60	5
PYRENE	ND	5

COMMENTS

D.L. = DETECTION LIMIT
ND = NON-DETECTED OR BELOW THE DETECTION LIMIT

Data Reviewed and Approved by: _____ CAL-DHS ELAP#1555

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: CROLEY & HERRING CO., 353 BEACON RIDGE LANE,
WALNUT CREEK, CA 94596 TEL(510)939-1118
PROJECT: CHIC
MATRIX: WATER DATE SAMPLE REC'D: 01/22/97 (ETS)
DATE SAMPLED: _____ DATE ANALYZED: 01/22-27/97
REPORTED TO: MR. DICK HERRING DATE REPORTED: 01/28/97
MR. WALTER LOO/ETS (FAX:310-498-2479) (415)861-3269

SAMPLE I.D.: C-3 LAB I.D.: 970122-13

ANALYSIS: POLYNUCLEAR AROMATIC HYDROCARBONS, EPA METHOD 610

UNIT: uG/L (PPB)

PARAMETER	SAMPLE RESULT	D.L. X5
ACENAPHTHENE	150	5
ACENAPHTHYLENE	53	5
ANTHRACENE	ND	5
BENZO(a)ANTHRACENE	ND	5
BENZO(a)PYRENE	ND	5
BENZO(b)FLUORANTHENE	ND	5
BENZO(k)FLUORANTHENE	ND	5
BENZO(g,h,i)PERYLENE	ND	5
CHRYSENE	ND	5
DIBENZO(a,h)ANTHRACENE	ND	5
DIBENZO(a,e)PYRENE	ND	5
DIBENZO(a,h)PYRENE	ND	5
DIBENZO(a,i)PYRENE	ND	5
FLUORANTHENE	ND	5
FLUORENE	31	5
INDENO(1,2,3-cd)PYRENE	ND	5
NAPHTHALENE	4,800	5
PHENANTHRENE	71	5
PYRENE	ND	5

COMMENTS

D.L. = DETECTION LIMIT
ND = NON-DETECTED OR BELOW THE DETECTION LIMIT

Data Reviewed and Approved by: _____ CAL-DHS ELAP#1555

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: CROLEY & HERRING CO., 353 BEACON RIDGE LANE, WALNUT CREEK, CA 94596 TEL(510)939-1118
PROJECT: CHIC
MATRIX: WATER
DATE SAMPLED: _____
REPORTED TO: MR. DICK HERRING
MR. WALTER LOO/ETS (FAX:310-498-2479) (415)861-3269
DATE SAMPLE REC'D: 01/22/97 (ETS)
DATE ANALYZED: 01/22-27/97
DATE REPORTED: 01/28/97

METHOD BLANK FOR 970122-12,13

ANALYSIS: POLYNUCLEAR AROMATIC HYDROCARBONS, EPA METHOD 610

UNIT: uG/L (PPB)

PARAMETER	SAMPLE RESULT	D.L. X5
ACENAPHTHENE	ND	5
ACENAPHTHYLENE	ND	5
ANTHRACENE	ND	5
BENZO(a)ANTHRACENE	ND	5
BENZO(a)PYRENE	ND	5
BENZO(b)FLUORANTHENE	ND	5
BENZO(k)FLUORANTHENE	ND	5
BENZO(g,h,i)PERYLENE	ND	5
CHRYSENE	ND	5
DIBENZO(a,h)ANTHRACENE	ND	5
DIBENZO(a,e)PYRENE	ND	5
DIBENZO(a,h)PYRENE	ND	5
DIBENZO(a,i)PYRENE	ND	5
FLUORANTHENE	ND	5
FLUORENE	ND	5
INDENO(1,2,3-cd)PYRENE	ND	5
NAPHTHALENE	ND	5
PHENANTHRENE	ND	5
PYRENE	ND	5

COMMENTS

D.L. = DETECTION LIMIT
ND = NON-DETECTED OR BELOW THE DETECTION LIMIT

Data Reviewed and Approved by: _____ CAL-DHS ELAP#1555

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: CROLEY & HERRING CO., 353 BEACON RIDGE LANE, WALNUT CREEK, CA 94596 TEL(510)939-1118
PROJECT: CHIC
MATRIX: WATER
DATE SAMPLE REC'D: 01/22/97 (ETS)
DATE SAMPLED: _____
DATE ANALYZED: 01/22-27/97
REPORTED TO: MR. DICK HERRING
DATE REPORTED: 01/28/97
MR. WALTER LOO/ETS (FAX:310-498-2479) (415)861-3269

SAMPLE I.D.: EW-1 LAB I.D.: 970122-14

PARAMETER	UNIT	SAMPLE RESULT	D.L.(X1)	EPA METHOD
TPH as GASOLINE (C4-C10)	uG/L	30,000	50	5030/8015M
BENZENE	uG/L	7	1	5030/8020
TOLUENE	uG/L	3,220	1	5030/8020
ETHYLBENZENE	uG/L	12	1	5030/8020
TOTAL XYLENES	uG/L	55	2	5030/8020
MTBE	uG/L	ND	5	5030/8020

COMMENTS

uG/L = PPB
D.L. = DETECTION LIMIT
ND = BELOW THE DETECTION LIMIT OR NON-DETECTED
TPH = TOTAL PETROLEUM HYDROCARBONS
MTBE = METHYL TERTIARY BUTYL ETHER

DATA REVIEWED AND APPROVED BY: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: CROLEY & HERRING CO., 353 BEACON RIDGE LANE, WALNUT CREEK, CA 94596 TEL(510)939-1118
PROJECT: CHIC
MATRIX: WATER
DATE SAMPLE REC'D: 01/22/97 (ETS)
DATE SAMPLED: _____
DATE ANALYZED: 01/22-27/97
REPORTED TO: MR. DICK HERRING
DATE REPORTED: 01/28/97
MR. WALTER LOO/ETS (FAX:310-498-2479) (415)861-3269

SAMPLE I.D.: MW-4 LAB I.D.: 970122-15

PARAMETER	UNIT	SAMPLE RESULT	D.L.(X1)	EPA METHOD
TPH as GASOLINE (C4-C10)	uG/L	2,480	50	5030/8015M
BENZENE	uG/L	659	1	5030/8020
TOLUENE	uG/L	95	1	5030/8020
ETHYLBENZENE	uG/L	58	1	5030/8020
TOTAL XYLENES	uG/L	104	2	5030/8020
MTBE	uG/L	ND	5	5030/8020

COMMENTS

uG/L = PPB
D.L. = DETECTION LIMIT
ND = BELOW THE DETECTION LIMIT OR NON-DETECTED
TPH = TOTAL PETROLEUM HYDROCARBONS
MTBE = METHYL TERTIARY BUTYL ETHER

DATA REVIEWED AND APPROVED BY: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: CROLEY & HERRING CO., 353 BEACON RIDGE LANE, WALNUT CREEK, CA 94596 TEL(510)939-1118
PROJECT: CHIC
MATRIX: WATER
DATE SAMPLED: _____
REPORTED TO: MR. DICK HERRING
MR. WALTER LOO/ETS (FAX:310-498-2479) (415)861-3269

DATE SAMPLE REC'D: 01/22/97 (ETS)
DATE ANALYZED: 01/22-27/97
DATE REPORTED: 01/28/97

SAMPLE I.D.: C-3 LAB I.D.: 970122-16

PARAMETER	UNIT	SAMPLE RESULT	D.L. (X1)	EPA METHOD
TPH as GASOLINE (C4-C10)	uG/L	2,830	50	5030/8015M
BENZENE	uG/L	818	1	5030/8020
TOLUENE	uG/L	91	1	5030/8020
ETHYLBENZENE	uG/L	123	1	5030/8020
TOTAL XYLENES	uG/L	139	2	5030/8020
MTBE	uG/L	ND	5	5030/8020

COMMENTS

uG/L = PPB
D.L. = DETECTION LIMIT
ND = BELOW THE DETECTION LIMIT OR NON-DETECTED
TPH = TOTAL PETROLEUM HYDROCARBONS
MTBE = METHYL TERTIARY BUTYL ETHER

DATA REVIEWED AND APPROVED BY: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro - Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: CROLEY & HERRING CO., 353 BEACON RIDGE LANE, WALNUT CREEK, CA 94596 TEL(510)939-1118
PROJECT: CHIC
MATRIX: WATER
DATE SAMPLED: _____
REPORTED TO: MR. DICK HERRING
MR. WALTER LOO/ETS (FAX:310-498-2479) (415)861-3269
DATE SAMPLE REC'D: 01/22/97 (ETS)
DATE ANALYZED: 01/22-27/97
DATE REPORTED: 01/28/97

METHOD BLANK FOR 970122-14,15,16

PARAMETER	UNIT	SAMPLE RESULT	D.L. (X1)	EPA METHOD
TPH as GASOLINE (C4-C10)	uG/L	ND	50	5030/8015M
BENZENE	uG/L	ND	1	5030/8020
TOLUENE	uG/L	ND	1	5030/8020
ETHYLBENZENE	uG/L	ND	1	5030/8020
TOTAL XYLENES	uG/L	ND	2	5030/8020
MTBE	uG/L	ND	5	5030/8020

COMMENTS

uG/L = PPB
D.L. = DETECTION LIMIT
ND = BELOW THE DETECTION LIMIT OR NON-DETECTED
TPH = TOTAL PETROLEUM HYDROCARBONS
MTBE = METHYL TERTIARY BUTYL ETHER

DATA REVIEWED AND APPROVED BY: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

ENVIRO-CHEM, INC. LABORATORIES
1214 E. Lexington Ave.
Pomona, CA 91766
(909) 590-5905 • Fax: (909) 590-5907

CHAIN of CUSTODY RECORD

DATE: 1/22/97
PAGE: 1 of 1

Lab Project # _____

CA-DHS ELAP CERTIFICATE # 1555

REPORT TO: DICK HERRING (ETS)
STREET: 353 BEACON RIDGE LANE
CITY: WALNUT CREEK STATE: CA ZIP: 94596
TEL: (510 939 1118 FAX: (510 939 1118
SHIPPING INFORMATION:

PROJECT NAME: CHC
PROJECT CONTACT: WALTER LOD
SAMPLER(S) SIGNATURE:

TURN AROUND TIME DESIRED
☐ Same Day ☐ 24 Hour ☐ 48 Hour
☐ 72 Hour ☒ 1 Week ☐ Standard (2 Weeks)
☐ Others: _____
Confirmed
By: _____

AFTER ANALYSES, SAMPLES ARE TO BE: ☒ DISPOSED OF ☐ STORED (30 days) ☐ RETURNED TO CLIENT ☐ OTHER:

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE: 1/22/97	TIME: 1300
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE:	TIME:
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE:	TIME:

SAMPLE I.D.	LAB I.D.	SAMPLING DATE/TIME	MATRIX	Nº of Containers	ANALYSIS REQUESTED	SAMPLE RECEIVED CONDITION	Sample Stored Location
[redacted] MW-4	970122-12		Water	1L bottle	PAH		R1
[redacted] C-3	-13		"	"	[redacted]		
EW-1	970122-14		Water	2x40ml Vial	MTBE, BTEX, TPH as gas		
MW-4	-15						
C-3	-16						

DISTRIBUTION: WHITE WITH REPORT • YELLOW TO COURIER

APPENDIX B

REGENESIS

Bioremediation Products

OXYGEN RELEASE COMPOUND (ORC®)

ORC RELEASES

OXYGEN SLOWLY

TO ENHANCE

BIOREMEDIATION.

OXYGEN RELEASE COMPOUND (ORC®)

BIOREMEDIATION – A NATURAL PROCESS

Bioremediation is a process by which microorganisms degrade certain hazardous substances. [redacted] products enhance the supply of oxygen to naturally occurring microbes which metabolically transform toxic organic compounds into harmless by-products. This carefully designed process can help to cleanup sites and inhibit the flow of polluted groundwater by creating permeable oxygen barriers.

A bioremediation system offers several advantages over other technologies. Other remediation methods may simply transfer the contaminants to another medium which requires removal, transportation, and possibly additional clean up. Bioremediation degrades contaminants on-site and has been shown to be more cost effective than other treatment technologies. The EPA actively promotes bioremediation as an ecologically sound, natural process.

Oxygen is often the limiting factor in aerobic bioremediation. Moisture and nutrients (such as phosphorus and nitrogen) are generally present in sufficient quantities, however, oxygen is rapidly consumed by microbes which thrive in an oxygen rich environment. Without adequate oxygen, contaminant degradation will either cease or may proceed by highly inefficient anaerobic processes. Thus, additional oxygen is needed to stimulate further aerobic microbial growth and activity.

OXYGEN RELEASE COMPOUND, ORC®

Oxygen Release Compound (ORC®) and methods of its application are innovative technologies which enhance bioremediation. ORC is a patented formulation of a very fine, insoluble peroxygen that releases oxygen at a slow, controlled rate when hydrated. Its use has been demonstrated to increase the remediation of hydrocarbon contamination in soil and groundwater.

FEATURES

- Magnesium peroxide compound is activated by moisture
- Patented technology controls and prolongs the release of oxygen
- Moderate pH levels are maintained
- Fine particle size has stable, long shelf life
- No external coating of product is required to control rate of oxygen release
- Generates higher dissolved oxygen levels than possible with air

BENEFITS

- Provides a passive, cost-effective, long-term oxygen source
- Does not generate harmful residue; environmentally safe
- Ideal for *in-situ* remediation where other methods are impractical
- Will not disturb the flow pattern of the contaminated plume
- Does not volatilize pollutants
- Can be used as a redox control agent

ORC TECHNOLOGY

The product releases oxygen when it comes in contact with water as shown by the following equation:

$$MgO_2 + H_2O \rightarrow {}^1/_2O_2 \uparrow + Mg(OH)_2$$

ORC will stop releasing oxygen when dry and will again release when rehydrated. The by-products of the reaction are oxygen and ordinary magnesium hydroxide, which make ORC environmentally safe to use.

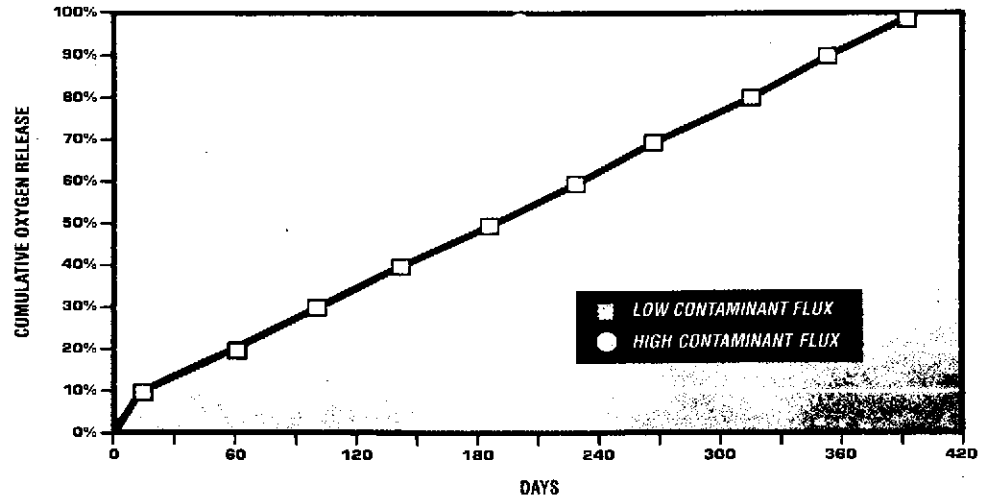


Figure 1 *presents the oxygen release kinetics of ORC. The product releases about 10% of the available oxygen in the first few weeks and then releases the balance over a period of six months to a year depending on the level of contaminant flux.*

GROUNDWATER APPLICATION – THE "OXYGEN BARRIER"

ORC should be considered for contaminated groundwater sites where aerobic bioremediation is the appropriate treatment technology. For application, ORC powder is mixed in a carrier matrix and contained in inert filter socks. A string of ORC Filter Socks is laced together and lowered into a well through the length of the contaminated saturated zone where contact with groundwater will initiate the release of oxygen. ORC Filter Socks are configured for two-, four-, and six-inch diameter wells (see Figure 2). When the oxygen returns to background levels, the socks containing ORC are removed from the well and, if necessary, new charges of ORC are added.

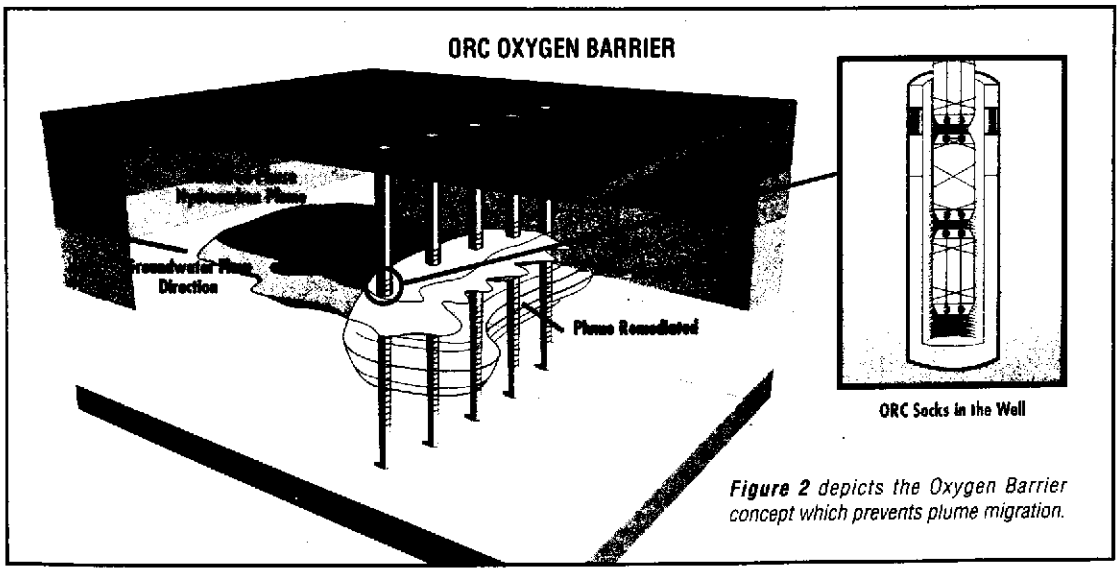


Figure 2 *depicts the Oxygen Barrier concept which prevents plume migration.*

groundwater applications, ORC can be configured to form an **Oxygen Barrier** across a contaminated plume. A properly placed row of wells or a trench containing ORC will slowly release oxygen, enhance bioremediation, and cut off the plume in the oxygenated zone (see Figures 2 and 3). The **Oxygen Barrier** concept was successfully demonstrated by the University of Waterloo in Canada and at sites in North Carolina, Alaska and New Mexico. BTEX compounds were significantly remediated at points downgradient from the **Oxygen Barrier.**

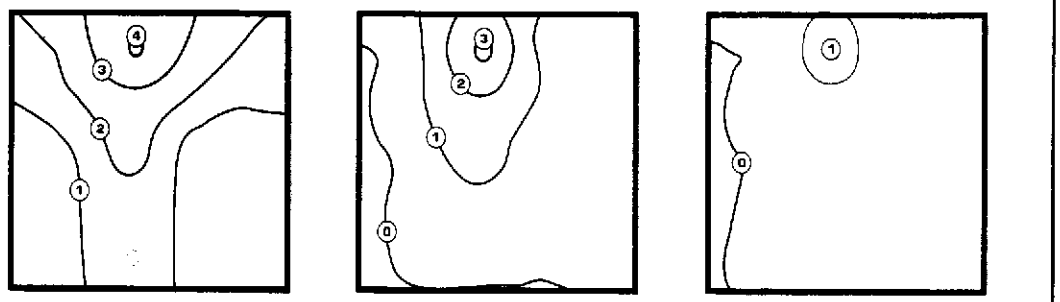


Figure 3 *illustrates the reduction of BTEX as it attempts to flow through the oxygenated zone generated by an ORC Oxygen Barrier at a site in New Mexico. The view is presented as if one were in the saturated zone facing the barrier. The area represented here is 20' x 20'.*

GROUNDWATER APPLICATION OPTIONS

Primary Treatment – ORC can be used as the primary treatment method at sites where groundwater contamination concentrations require active remediation. The goal is prevention of plume migration off-site.

Concurrent Treatment – At sites where another technology such as pump and treat is already installed, or planned for installation, ORC can be used to concurrently improve remediation results.

Follow-on Treatment – ORC can be used to continue groundwater remediation at sites where the primary technology is no longer cost effective – as when pump and treat operations reach an inefficient plateau.

Monitoring/Risk Reduction – This includes introducing ORC into existing monitoring wells at sites with groundwater contamination. ORC may reduce the required frequency and duration of monitoring by promoting degradation of low levels of contaminants and in certain situations may reduce source area contaminants enough to meet risk reduction objectives. Also this can be a cost effective method of performing a pilot study to determine how well ORC will work on a particular site before more extensive ORC treatment.

OTHER REMEDIATION OPTIONS

Soil Treatment – ORC can be mixed directly in soil to supply oxygen for remediation in biopiles and landfarming applications. This is particularly useful when soil conditions and/or physical location contraindicate mechanical aeration strategies. In some cases, ORC can be mixed into soil on the floor of an excavation, as clean fill is added, to prevent recontamination by groundwater as the table rises.

Odor Control – ORC has been successfully demonstrated to control odor in anaerobic impoundments.

ORC – PROVEN EFFECTIVENESS

participated in proof-of-concept studies indicating that ORC releases oxygen, enhances [illegible] promotes remediation. Subsequently, field applications demonstrated that ORC was effective in promoting bioremediation under "real world" conditions.

- **University of Waterloo** (published, *Groundwater Monitoring and Remediation,* Winter 1994) – Conducted at the widely studied Borden Aquifer in Ontario, Canada, the study indicates that an Oxygen Barrier generated by ORC released significant amounts of dissolved oxygen (DO). It concluded that the enhancement of DO by ORC led to the biodegradation of at least 4 mg/L each of benzene and toluene.

- **North Carolina Site** (published, *Proceedings from the Second International Symposium on In Situ and On-Site Bioreclamation,* San Diego, CA, 1993) – This study demonstrated that the use of ORC in an Oxygen Barrier dramatically reduced BTEX compounds downgradient from a UST generated gasoline spill.

- **Alaska Site** (presented at the I&EC Special Symposium, American Chemical Society, Atlanta, GA, 1995) – A pilot study showed the effectiveness of an ORC remediation compared to air sparging. Sparge points fouled in the high iron environment and there was evidence of channeling – a problem common with this technology. ORC was effective in remediation and a full barrier was installed. Benzene levels were reduced from 320 ppb to 9.8 ppb and total BTEX went from 1361 ppb to 17 ppb. Gasoline range organics went to ND (not detected) from 7.4 ppm. Diesel range organics rose from ND to .55 ppm, indicating there may have been an influx of hydrocarbons during the test.

- **New Mexico Site** (presented at The New Mexico Environment Department UST Bureau Bioremediation Conference, Santa Fe, NM 1995) – At this site, ORC was installed in 20 wells to form an Oxygen Barrier. There was a high contaminant flux at the site (5-15 ppm at 1-2 feet per day). DO increased from inadequate levels and was maintained at 10 ppm and greater for the first 30 days. After 93 days the estimates of the remaining oxygen indicated that a change out of ORC would not be required for six months. During this 93 day period, a significant reduction of BTEX mass was achieved in the treatment zone, such that concentrations of total BTEX in samples from the most downgradient well (measured at 120 feet from the barrier) declined to ND. At this well, assays of aerobic microbial degraders were two orders of magnitude higher than background, thus indicating the presence of oxygen from the ORC installation was driving bioremediation.

- **16-Site ORC Performance Evaluation –** ORC was placed in 41 existing wells on 16 sites and monitored for a 7 to 12 week period. The average dissolved oxygen levels were significantly increased; two-thirds of the readings were between 20 and 30 ppm, even while in the presence of dissolved phase BTEX. As expected, the BTEX levels dropped dramatically - between 80 and 100 percent in 75% of the wells - a third of those being fully remediated (see Figure 4).

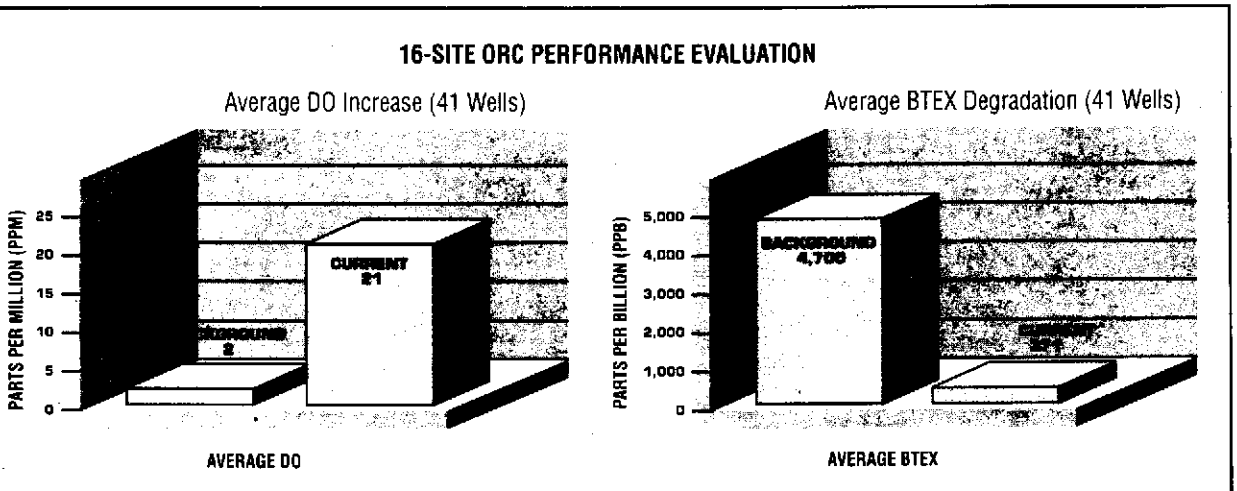


Figure 4 *these graphs illustrate the results of the 16-site ORC Performance Evaluation program described above.*

CUSTOMER SERVICE

- Analysis of your site for an ORC application to meet your remediation objectives
- Recommendation of ORC well placement and product replenishment
- Economic analysis and comparison of ORC to other remediation technologies
- Assistance with regulatory approval
- Technical Bulletins are available on a range of subjects

SAFETY, STORAGE AND HANDLING

ORC is an oxidizer. ORC sh[illegible] into contact with combus[illegible]. Though [illegible] is not flammable, it can release oxygen to feed a fire. In the event of a fire, the area should be flooded with large volumes of water.

Since ORC can be mildly hazardous to human health, certain precautions should be taken when handling the material. Direct contact with the skin and eyes should be avoided, as irritation may occur. Rubber gloves and protective goggles should be worn as a preventative measure. Should contact with skin occur, wash immediately with soap and water. Flush eyes thoroughly and repeatedly for 15 minutes and contact a physician, if necessary.

Inhalation may also cause mild irritation to the lungs, nose, and throat, but should not result in significant, long-term hazard. When ORC is packaged in filter socks for use in wells or trenches, the free-powder related hazards are significantly limited. A proper dust mask or breathing apparatus should be used when the product is handled in the powder form. If inhalation irritation occurs, move to a well ventilated space, or outside to fresh air.

ORC is a very stable compound. Though it is designed to release oxygen when in contact with water, it will remain stable at up to 3% moisture which facilitates storage. Storage areas should remain dry. Avoid areas with high humidity. Store the product away from combustible material. Keep containers closed when not in use.

An MSDS is shipped with every order and copies are available upon request.

REGENESIS – THE COMPANY

REGENESIS Bioremediation Products was formed to continue the development and marketing of ORC®. Oxygen Release Compound was first sold commercially in 1994 after three years of development. The inventors originally began working on a similar product used to facilitate the growth of plants in oxygen-poor soils. Formulations of ORC more appropriate to bioremediation applications were successfully tested in the laboratory and followed by several field demonstrations. The company is now in the commercialization phase, working with clients to meet [illegible] needs.

For further information or technical assistance, please contact:

REGENESIS Bioremediation Products

27130A Paseo Espada ▪ Suite 1407 ▪ San Juan Capistrano ▪ CA 92675 ▪ Voice: (714) 443-3136 ▪ Fax: (714) 443-3140

REGENESIS Bioremediation Products
Oxygen Release Compound (ORC®)
Price List

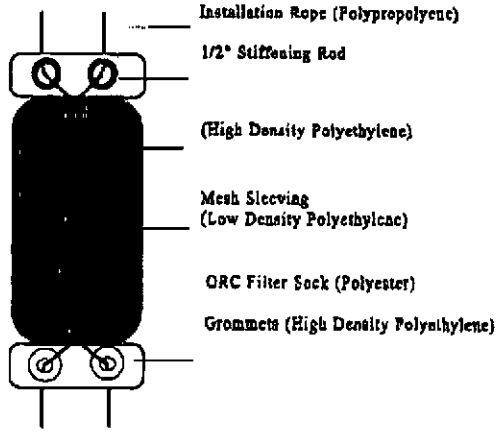
Effective Date: September 1, 1996

Bulk ORC Powder--$9.75/lb
Pure ORC powder for use in tank excavation and slurry applications.

Application--Bulk ORC powder is shipped in five gallon containers weighing 30 pound. Installation instructions (whether for tank excavation or slurry applications), slurry mixing instructions and MSDS (safety handling instructions) are included with each shipment.

ORC Filter Sock Prices--ORC is carried in an inert matrix. The 50% ORC mixture is contained in a filter sock, a diagram of which is shown below. The ORC Filter Socks are priced as follows:

	Well Inside Diameter*		
ORC Filter Sock	6 inches	4 inches	2 inches
Price (ea.)	$60.00	$35.00	$17.50
Minimum Weight	12.0 lbs.	5.0 lbs.	1.0 lbs.
Approximate Height	12 inches	12 inches	12 inches
Approximate Diameter	5 1/8"	3 3/8"	1 3/8"



Application--ORC filter socks are shipped in five gallon containers ready for installation. Each container weighs up to 45 pounds. Installation/retrieval lines, MSDS (safety handling instructions) and installation instructions are included with the shipment.

Freight--FOB Irvine, California

Minimum Order--$500.00

Payment Terms--Net 30 Days

Other Terms and Conditions--Terms and Conditions for the purchase of ORC are shown on the reverse side.

Order From--REGENESIS Bioremediation Products
27130A Paseo Espada, Suite 1407
San Juan Capistrano, CA 92675
(714) 443-3136 phone
(714) 443-3140 fax

*Prices for customized ORC Filter Socks are available upon request.

®Registered Trademark of Regenesis Bioremediation Products

REGENESIS

OXYGEN RELEASE COMPOUND ("ORC®")
GROUNDWATER APPLICATION
BASIC SITE CHARACTERISTICS

SITE LOCATION:_____

RESPONSIBLE PARTY:_____

CONSULTING FIRM:_____

REGULATORY AGENCY:_____

Depth to water	
Thickness/saturated zone	
Thickness/treatment zone	
Aquifer material	
Plume lenth & width	
Groundwater velocity	
Hydraulic conductivity	
Porosity (effective)	
Gradient and Direction	
Groundwater temperature	
TPHg/TPHd concentration	
Total BTEX concentration	
Water table fluctuation	
Free phase present	
D.O.	
Well Diameter/Construction	
Hydraulic controls	

ADDITIONAL INFORMATION: If possible please provide the latest dissolved hydrocarbon results table, site map, groundwater gradient map and a groundwater hydrocarbon plume map.

PLEASE CIRCLE THE ***REMEDIAL APPROACH*** THAT MOST CLOSELY DESCRIBES USE OF ORC TO ACHIEVE YOUR REMEDIAL OBJECTIVES: A) barrier cutoff and plume containment; B) follow-on treatment of existing system e.g.,. a P&T that has gone asymptotic; C) concurrent use with an existing system; D) source treatment ;and E) risk reduction (use in existing wells only).

_____

_____

_____

_____

®Registered trademark of Regenesis Bioremediation Products

(c:\share\sitecz1.frm)

REGENESIS Bioremediation Products
Oxygen Release Compound, ORC®
TERMS AND CONDITIONS

1. CASUALTY AND AVAILABILITY OF RAW MATERIALS. REGENESIS Bioremediation Products ("Seller") shall not be liable for delays in delivery or failure to manufacture or deliver due to causes beyond its reasonable control, including but not limited to acts of God, acts of buyer, acts of military or civil authorities, fires, strikes, flood, epidemic, war, riot, delays in transportation or car shortages, or inability to obtain necessary labor, materials, components or services through seller's usual and regular sources at usual and regular prices. In any such event seller may, without notice to buyer, at any time and from time to time, postpone the delivery dates under this contract or make partial delivery or cancel all or any portion of this and any other contract with buyer without further liability to buyer. Cancellation of any part of this order shall not affect seller's right to payment for any product delivered hereunder.

2. LIMITED WARRANTY. Seller warrants that the product sold hereunder is made with ORC as specified on face of invoice. Seller makes no other warranty of any kind respecting the product, and expressly DISCLAIMS ALL OTHER WARRANTIES OF WHATEVER KIND RESPECTING THE PRODUCT, INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE. BUYER'S SOLE REMEDY FOR BREACH OF THIS LIMITED WARRANTY SHALL BE REFUND OF THE PURCHASE PRICE, PROVIDED THAT ANY UNUSED PORTION OF THE PRODUCT IS PROMPTLY RETURNED TO SELLER. UNDER NO CIRCUMSTANCES WILL SELLER BE LIABLE FOR ANY CONSEQUENTIAL OR OTHER DAMAGES.

3. DISCLAIMER. Seller disclaims to the full extent permitted by law all warranties, expressed or implied, including any implied warranty of merchantability, fitness for any particular purpose or against infringement, to any person other than buyer. Where warranties to a person other than buyer may not be disclaimed under law, seller extends to such a person the same warranty seller makes to buyer or lessee as set forth herein, subject to all disclaimers, exclusions and limitations of warranties, all limitations of liability and all other provisions set forth in the Terms and Conditions herein. Buyer agrees to transmit a copy of the Terms and Conditions set forth herein to any and all persons to whom buyer sells, or otherwise furnishes the products and/or services provided buyer by seller and buyer agrees to indemnify seller for any liability, loss, costs and attorney's fees which seller may incur by reason, in whole or in part, of failure by buyer to transmit the Terms and Conditions as provided herein.

4. LIMITATION OF SELLER'S LIABILITY AND LIMITATION OF BUYER'S REMEDY. Seller's liability for any claim of any kind, including negligence, for any loss or damage arising out of, connected with, or resulting from the manufacture, sale, delivery, resale, repair or use of any goods or services covered by or furnished hereunder, shall in no case exceed the lesser of the cost of repairing or replacing goods failing to conform to the forgoing warranty or the price of the goods or services or part thereof which gives rise to the claim. IN NO EVENT SHALL SELLER BE LIABLE FOR SPECIAL INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THE NATURE OF PENALTIES.

5. INDEMNIFICATION. Buyer agrees to defend and indemnify seller of and from any and all claims or liabilities asserted against seller in connection with the manufacture, sale, delivery, resale, or repair or use of any goods covered by or furnished hereunder arising in whole or in part out of or by reason of the failure of buyer, its agents, servants, employees or customers to follow instructions, warnings or recommendations furnished by seller in connection with such goods, by reason of the failure of buyer, its agents, servants, employees or customers to comply with all federal, state and local laws applicable to such goods, or the use thereof, including the Occupational Safety and Health Act of 1970, or by reason of the negligence of buyer, its agents, servants, employees or customers.

6. TAXES. Liability for all taxes and import or export duties, imposed by any city, state, federal or other governmental authority, shall be assumed and paid by buyer. Buyer further agrees to defend and indemnify seller against any and all liabilities for such taxes or duties and legal fees or costs incurred by seller in connection therewith.

7. ASSISTANCE AND ADVICE. Upon request, seller in its discretion will furnish as an accommodation to buyer such technical advice or assistance as is available in reference to the goods. Seller assumes no obligation or liability for the advice or assistance given or results obtained, all such advice or assistance being given and accepted at buyer's risk.

8. ENTIRE AGREEMENT. This agreement constitutes the entire contract between buyer and seller relating to the goods or services identified herein. No modifications hereof shall be binding upon the seller unless in writing and signed by seller's duly authorized representative, and no modification shall be effected by seller's acknowledgment or acceptance of buyer's purchase order forms containing different provisions. Trade usage shall neither be applicable nor relevant to this agreement, nor be used in any manner whatsoever to explain, qualify or supplement any of the provisions hereof. No waiver by either party of default shall be deemed a waiver of any subsequent default.

APPENDIX C

INTERNAL RWQCB for release to public in Jan.

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STATE WATER RESOURCES CONTROL BOARD RESOLUTION NO. 1021b

POLICY FOR INVESTIGATION AND CLEANUP OF PETROLEUM DISCHARGES TO SOIL AND GROUND WATER

WHEREAS:

1. During the 1970's and 1980's ground water used for public water supplies in the South San Francisco Bay Area was contaminated by chlorinated hydrocarbon solvents discharged from leaking underground storage tanks (USTs).

2. Local, State and federal legislation in the mid 1980's led to broad programs for the registration and regulation of underground tanks used for storage of hazardous substances, including petroleum fuels.

3. Tens of thousands of single-wall steel tanks (and associated piping) used for storage and dispensing of petroleum fuels, installed underground in order to comply with local safety ordinances, and subject to natural corrosion in the soil for decades, were found to be leaking.

4. Discovery of such widespread fuel tank leakage, with the resultant discharge of hazardous petroleum constituents, such as benzene, to the environment, stimulated aggressive programs for cleanup, at significant cost to tank owner and operators.

5. In contrast to extensive contamination of drinking water wells from chlorinated solvent discharges, contamination of drinking water wells due to petroleum discharges from leaking USTs has been limited. Since 1985, fuel leaks have been reported at more than 30,000 UST sites in California. Fewer than 10 municipal wells from a sample of 12,000 had contamination attributable to a petroleum release from a UST. Of the few private domestic wells which have been affected, most are close to the leaking UST and screened in a shallow aquifer.

6. The State Board has received and considered comments and recommendations from the Lawrence Livermore National Laboratory (LLNL) in collaboration with the University of California and from the Advisory Committee appointed pursuant to H&SC 25299.38, including strong recommendations for use of a risk assessment process that considers all available historical and site specific data to provide a systematic means to identify potential sources, pathways and receptors that contribute to or increase the risks from petroleum discharges.

7. The State Board held public meetings on May 2, 1996 and May 16, 1996 to receive comments from interested persons regarding the cleanup of petroleum leaks and spills.

8. Petroleum, which includes crude oil and the products derived from it (e.g., gasoline, diesel, heating oil, stoddard solvent) is made up of many naturally occurring hydrocarbon compounds, most of which are only slighly water soluble, are relatively immobile in the subsurface environment, and tend to degrade readily in the environment. Benzene is the most water soluble natural hydrocarbon constituent of petroleum fuel and a known human carcinogen. The maximum contaminant level for benzene in drinking water is one part per billion. The concentration of benzene in petroleum varies depending on the product. When in contact with water, the benzene fraction in petroleum partially dissolves creating a plume of dissolved benzene in the water body.

9. Most dissolved benzene plumes at UST sites located in the urbanized alluvial plains of the San Francisco Bay Area, Central Valley, North Coast and Los Angeles Basin extend no more than a few hundred feet from the point of release. The extent of these plumes typically is limited through the action of natural degradation/attenuation processes.

10. Most plumes of dissolved benzene in ground water are caused by liquid petroleum traveling through the soil and coming into contact with ground water. The presence of soil saturated with liquid petroleum indicates the possibility that liquid petroleum may have migrated, or may be migrating, to groundwater.

11. The trend of concentrations within a plume of dissolved petroleum constituents or additives in ground water generally can be determined based on analyses of ground water samples taken quarterly over a two year period.

12. Although most petroleum discharges have been shown to have only localized impacts on ground water and to degrade naturally over time, it is prudent to establish protective criteria to assure the public that impacts remain localized and do not present a threat to human health, safety or the environment.

13. Decisions on the appropriate level of regulatory activity for a site at which petroleum has been discharged should take into consideration the risk that

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pollution associated with the discharge will impair existing and probable future beneficial uses of water.

14. At most sites with petroleum discharges, residual petroleum constituents will remain in soil, regardless of the degree of cleanup. The presence of such residual hydrocarbons in soil, under conditions set forth in Section II.C of this Policy, pose a low risk of adverse effects on human health, safety or the environment (including beneficial uses of water) and should not restrict use of the property provided that standard precautions are taken in the event of any excavation, boring or related activities involving the subsurface.

15. A primary concern associated with leaving residual petroleum constituents in the soil is the possible accumulation of, and human inhalation exposure to, petroleum vapors in existing or new buildings. Such exposure is unlikely because concentrations of volatile petroleum constituents attenuate rapidly within the soil column as the vapors migrate upward from underlying residual petroleum constituents, resulting in negligible, if any, petroleum vapor concentrations detected at, or a few feet below, the ground surface. Indoor vapor concentrations in existing buildings overlying residual petroleum constituents in the subsurface environment are typically much lower than theoretical estimates based on current standard fate and transport modeling. Installation of vapor barriers during new building construction, which is common practice to prevent moisture transmission, provides redundant protection against vapor accumulation where new buildings are located near sites with petroleum discharges.

16. Methyl tertiary butyl ether (MTBE) is a gasoline fuel additive which was used sporadically in California during the 1970's and 1980's as an octane enhancer. In the early 1990's, MTBE was used as a wintertime gasoline additive in air quality nonattainment areas to reduce automobile exhaust pollutant emissions. In 1996, the Air Resources Board required that all gasoline sold in California be oxygenated at a minimum of 2% by weight. The major oil companies have currently chosen to meet this requirement by reformulating gasoline to include MTBE at 11% by volume.

17. MTBE is more water soluble than benzene and, unlike fuel hydrocarbons, does not appear to readily degrade or become retarded in the subsurface environment. Because of these characteristics, MTBE can travel in ground water beyond the immediate vicinity of a discharge.

18. The U.S. Environmental Protection Agency (USEPA) has proposed a lifetime health advisory for the ingestion of MTBE in a range of 20-200 parts per billion. In 1992 the State Office of Environmental Health Hazard Assessment (OEHHA) issued a drinking water advisory of 35 parts per billion. The taste and odor thresholds for MTBE in water are 40-50 parts per billion, respectively.

19. Creation and maintenance of a database of sites where residual petroleum constituents remain would inform subsequent site owners and assist local agencies to ensure that standard precautions are taken during subsurface activities such as excavation or well drilling.

20. Petroleum discharges from USTs, aboveground tanks, pipelines, surface spills, or other sources have similar environmental impacts in similar hydrogeologic settings.

21. The personal and economic costs of complying with the UST cleanup regulatory process have often had a profoundly negative impact on the economic and social well-being of many of the owners and operators of USTs.

22. The legislature directed the State Board to adopt regulations for cleanup of petroleum discharges from USTs. Section 25299.38 of the Health and Safety Code (H&SC) requires the State Board to consider changes in cleanup standards that are both technologically feasible and necessary to ensure the protection of human health, safety and the environment and to ensure statewide consistency in the regulation of such cleanup by Regional Water Quality Control Boards and local agencies. It also is important that public and private resources be spent only on cost-effective cleanup that is necessary to ensure protection of human health, safety and the environment.

23. Maintaining the high quality of waters is best achieved by prevention of leaks and other discharges through strong enforcement of leak detection and monitoring requirements by state and local agencies together with UST upgrade or replacement. Both State law and federal regulations require that USTs be upgraded or replaced by December 22, 1998.

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THEREFORE BE IT RESOLVED:

I. GENERAL PROVISIONS

A. Notwithstanding any other policies adopted by the State Board, this Policy shall govern regulatory actions for discharges where:

(1) The discharge consists of petroleum or petroleum products;

(2) The petroleum was discharged to soil or to ground water, and

(3) The discharge is located in an area with alluvial geology.

B. The principles articulated herein, under appropriate circumstances, may be extended to petroleum discharges to soil and ground water in other geological environments.

C. This Policy establishes categorical criteria for petroleum discharges that should present a "low risk" that existing or probable future beneficial uses of water will be impaired based upon data gathered from discharges at many sites. This categorization does not preclude a regional water quality control board or local agency from determining, based upon site-specific data, that a discharge that does not satisfy these "low risk" criteria is, nevertheless, a "low risk" discharge.

D. This Policy does not preclude a regional water quality control board from issuing orders for the cleanup or abatement of a waste discharge pursuant to Section 13304 of the Water Code for discharges that appear to satisfy the "low risk" criteria if, based upon site-specific data, the regional water quality control board determines that the discharge impairs or threatens to impair existing or probable future beneficial uses of water. Any such order issued by a regional water quality control board is appealable to the State Board in accordance with Section 13320 of the Water Code.

E. No regulatory action is required for minor spills (less than 5 gallons) of petroleum or petroleum products to the ground surface.

II. SPECIFIC PROVISIONS

A. Source Removal

The source of the discharge shall be removed or repaired at all sites. In addition, soil saturated with petroleum in the immediate vicinity of the source shall be removed and properly treated or disposed of.

No further regulatory action shall be required if the discharge is so minor that source removal results in substantially complete removal of all petroleum discharged.

B. Initial Site Assessment

If removal of the source and saturated soils as described in Section I does not accomplish substantially complete removal of petroleum, an initial site assessment shall be required in order to develop a conceptual model of the discharge and its surrounding environment. The initial site assessment shall include, but not be limited to the following: (1) data on the nature and estimated quantity of release; and (2) data on the surrounding populations, water quality, use and approximate locations of wells within one half mile of the discharge, subsurface soil conditions and hydrogeology, locations of subsurface utilities, climatological conditions, and land use. Information from previous investigations at nearby sites and other available sources should be used to the extent possible.

The initial site assessment shall include any boring, sampling and analyses needed to determine the presence of soils saturated with petroleum beyond the immediate vicinity of the source and to determine whether a sufficient buffer of petroleum-free soil exists for the site to qualify as "low risk" in accordance with Section II.C. (At UST sites this will generally entail analyzing soil samples from below the lowest point of any excavation undertaken to remove the source, taken from no more than three borings at a lateral distance of no more than 10 feet from the source of the discharge.)

Ground water sampling beneath the discharge shall be required if the conditions of Section II.C are not satisfied. At UST sites this will generally entail analyzing ground water samples from three monitor wells constructed at or near the soil borings. At all sites where gasoline was discharged and soil and ground water samples are taken to determine the presence of benzene, such samples shall be also analyzed for MTBE where it is likely that the gasoline contained MTBE.

Where buildings overlie soil or ground water affected by the discharge of petroleum, a soil vapor analysis shall be required.

C. Low Risk Criteria

1. Low Risk Inhalation Exposure Sites

No further regulatory action to abate the effects of petroleum vapors shall be required if petroleum vapor concentrations in soil at depths of 0-3 feet beneath, or immediately adjacent to, a building overlying the soil or ground water affected by the discharge have attenuated to "non-detect" levels.

2. Low Risk Soil Only Sites

No further regulatory action shall be required if:

(a) there is no soil saturated with petroleum from the discharge; and

(b) there is no detectable petroleum in the soil within 20 feet of waters of the state.

3. Low Risk Ground Water Sites

No further regulatory action shall be required if the maximum concentration of MTBE in ground water affected by the discharge does not exceed 35 parts per billion and either of the following conditions are met:

(a) the maximum concentration of benzene in groundwater affected by the discharge does not exceed one part per billion; or

(b) there is no surface water body or drinking water well within 750 feet of the source of the discharge and the maximum concentration of benzene in ground water affected by the discharge does not exceed one part per million.

D. Additional Site Assessment and Corrective Action

If the discharge does not satisfy the criteria in Section II.C for low risk sites, additional site assessment shall be required to develop a more comprehensive and detailed conceptual model of the discharge. No further regulatory action shall be required, following more complete site assessment, if the following conditions are satisfied:

(1) the concentration of benzene from the discharge in any affected drinking water well is less than one part per billion; and the concentrations of benzene within the plume from the discharge remain constant or decrease over time; and the concentrations of MTBE within the plume from the discharge remain constant or decrease over time such that the concentration at any affected drinking water well is less than 35 parts per billion or any future health-based concentration recommended by OEHHA; or

(2) active cleanup measures lower the concentrations of benzene and MTBE and petroleum vapors to conditions that satisfy the low risk criteria in Section II.C; or

(3) engineering or institutional controls reasonably abate the risk.

III. DATABASE

A database shall be created in accordance with SB 562.

IV. DEFINITIONS

The following definitions shall apply to terms as used in this policy:

"Regulatory action" means any action by a regulatory agency requiring investigation, characterization, removal, or cleanup of a discharge of petroleum, or abatement of the effects of a discharge.

"Soils saturated with petroleum" means that the pore volume between soil particles is substantially filled with liquid petroleum.

"Source" means the physical container from which petroleum has been released (discharged) to the environment. A source can include, but not be limited to, either a UST or an aboveground tank and associated piping, or a pipeline. This term does not include soil containing or saturated with petroleum.

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APPENDIX D

RISK MANAGEMENT MODEL FOR ACCELERATING BROWNFIELDS REDEVELOPMENT

November 16, 1995

City of Emeryville
Population 6,470
Median Income (1990) $35,655
Employment 15,000

Alameda County
State of California

Applicant: CITY OF EMERYVILLE and
EMERYVILLE REDEVELOPMENT AGENCY
Ignacio Dayrit, Project Director

2200 Powell Street, 12th Floor
Emeryville, CA 94608
Tel (510)596-4350
Fax (510)658-8095

Project period: Two (2) years

COOPERATIVE PARTNERS:

Emeryville Community Action Program
Emery Unified School District
California Environmental Protection Agency/
State Water Resources Control Board
California Environmental Protection Agency/
San Francisco Regional Water Quality Control Board
California Environmental Protection Agency/Department of Toxic Substance Control
Alameda County Department of Environmental Health

PROJECT OVERVIEW

BACKGROUND. Emeryville is located on the shores of San Francisco Bay and contains 1.2 square miles. Beginning the 1970's up to the present, heavy industry has been leaving Emeryville, leaving economic and environmental problems. Much of Emeryville was created by tainted landfill. Because of the pollution caused by industrial use and landfill, it is generally believed that all soil and groundwater in Emeryville are contaminated and are uneconomically infeasible to clean to pristine levels. Over the past decade, regulation of soil and ground water pollution has become more stringent and inconsistent making it increasingly difficult to redevelop property. Because of these factors, redevelopment is slow, expensive and often accompanied by litigation, with the resultant adverse impacts on job creation and housing.

Emeryville is a community with a large proportion of minority and low-income persons. The poorest community is found in East Emeryville. Together with freeways and railroad tracks that carve up the city and an inadequate internal circulation network, brownfields have contributed to the isolation of East Emeryville from vital community activities and services. The risk and cost of remediating brownfields delays the unification of Emeryville's residential neighborhoods.

GOALS AND OBJECTIVES. The goal is to integrate all Emeryville residential neighborhoods and to encourage residential and commercial development by building consensus and developing confidence among all stakeholders in a "risk management" based model for brownfields redevelopment based on the emerging California regulatory policy of containment areas, thereby reducing cost and regulatory uncertainty, while protecting public health and the environment. The tasks, which are illustrated in Chart A are discussed below:

1. Compile hydrogeologic, soil and groundwater information from all available sources.

2. Conduct hydrogeologic testing and soil and groundwater sampling to cover data gaps.

3. Complete a three-dimensional map incorporating hydrogeologic, soil, groundwater, economic, land use and zoning information using GIS software.

4. Concurrent with the first three steps, convene a broad based Community Task Force to address soil and groundwater concerns related to land use, zoning, economic development, environmental justice and the environment.

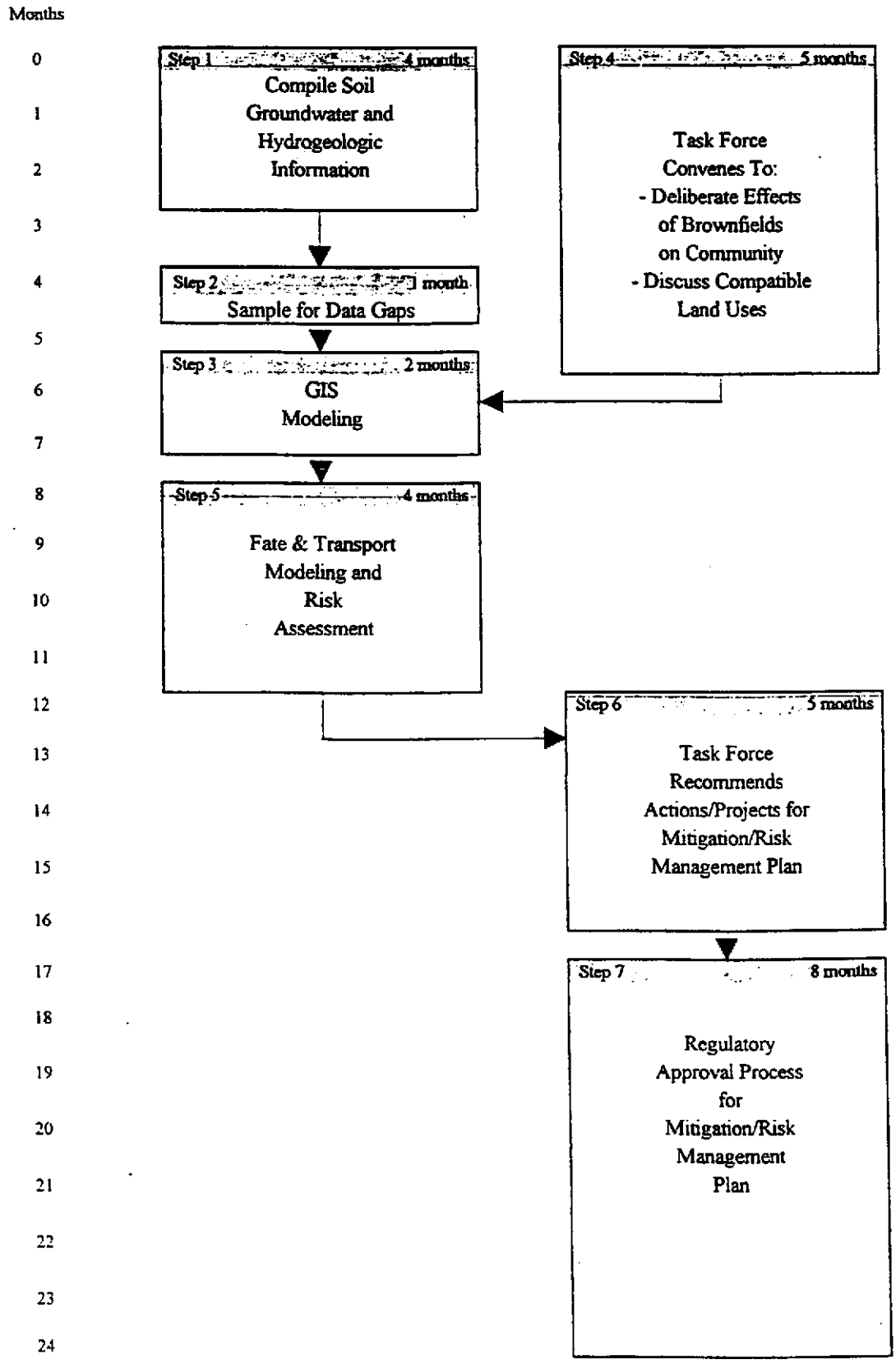
5. Conduct fate and transport modeling and risk assessment to find the sensitive pathways to the deeper groundwater aquifer and San Francisco Bay, and to define acceptable residual levels of soil and groundwater contamination based on proposed land use and zoning.

6. Develop a Mitigation/Risk Management Plan that institutes funding mechanisms, designs community/education programs geared toward environmental awareness and community development, and formulates mitigation measures necessary to apply the risk management model. A component of the Plan would be a "mitigation fund," administered by the City of Emeryville, to compensate for environmental uncertainties resulting from application of the model.

7. Seek regulatory approval from concerned agencies.

Chart A **City of Emeryville Brownfields Proposal**

Tasks and Schedule



BROWNFIELDS ECONOMIC REDEVELOPMENT INITIATIVE
Estimated Budget

TASK	EPA Grant	Applicant Contribution	TOTAL
1 Data Compilation	35,000		$35,000
2 Sampling			
a. Hydrogeological Testing	35,000		$35,000
b. Soil and Groundwater Sampling	15,000		$15,000
3 GIS Mapping			
a. Software	15,000		$15,000
b. Hydrogeology, Soil & Groundwater	30,000		$30,000
c. Land Use and Zoning		15,000	$15,000
4 Task Force operations			
a. Risk Communications Consultant		20,000	$20,000
b. Public Participation Consultant		20,000	$20,000
c. Legal Research		50,000	$50,000
d. Other		10,000	$10,000
5 Risk Assessment/Fate and Transport	70,000		$70,000
6 Mitigation/Risk Management Plan		50,000	$50,000
7 Regulatory Approval		60,000	$60,000
TOTAL	$200,000	$225,000	$425,000

Note: Task numbers correspond with objectives found in Project Overview.

11/15/95

RESPONSES TO EVALUATION CRITERIA

1. PROBLEM STATEMENT AND NEEDS ASSESSMENT

Effect of Brownfields on the Community

- *Define your community or communities. This definition will be assumed to apply throughout your response to the criteria unless otherwise noted.*

The City of Emeryville is an urban city located on the eastern shore of the San Francisco Bay in the heart of the San Francisco Bay Area. Historically, Emeryville was a place of heavy industry with businesses such as Judson Steel, Westinghouse Electric, Del Monte, Shell, Chevron and Sherwin-Williams (Exhibit "A," Vicinity Map). The vast majority of these industries abandoned the City by the 1970's, taking jobs away and leaving empty land and heavily contaminated soils and groundwater. The trend continues today with the recently announced departures of Grove Valve & Steel and Berkeley Farms, which will result in a loss of an additional 200 jobs.

Reflecting this history, the infrastructure of the City follows the functional needs of heavy industry and is inadequate to serve the needs of the City's growing commercial and residential community. However, the City is an ideal location for businesses and residents. The City is located at the intersection of two major highways, Interstates 80 and 580, and is bisected by State Route 123 (San Pablo Avenue) and by the Southern Pacific railroad (SPRR) tracks, all of which contribute to isolating East Emeryville from the rest of the City.

The 1990 Alameda County and Emeryville median incomes were $40,621 and $35,665, respectively (1990 Census). Forty-six percent of Emeryville's citizen's are low-income and 58 percent are of races or origins other than Caucasian. Most of Emeryville's poor reside in neighborhoods located in East Emeryville, generally described as east of the SPRR tracks (Exhibit B - Income and Physical Barriers Map). These neighborhoods are bordered by Brownfields and the few remaining vestiges of heavy industry in the City.

In response to these economic and environmental conditions, the City formed the Emeryville Redevelopment Agency in 1976 to revitalize the City and eliminate urban blight. The City has also entered into an agreement with the City of Oakland to extend the boundaries of Oakland's urban enterprise zone to include Emeryville. The City and Agency have discovered that although there is demand for residential and commercial development in the City, the cost and delay associated with environmental remediation is a significant obstacle to redevelopment of brownfields, the construction of infrastructure, and the provision of services to disadvantaged communities. Because brownfields constitute a large proportion of the land in the City, environmental contamination is a major stumbling block to the revitalization of this low-income, largely minority community.

- *Characterize the impact of brownfields on your community (or communities) by describing their extent (size, number, location) and providing specific evidence of their economic and environmental impacts. Your response should provide clear links between your community's brownfields and measurable environmental, economic, and social impacts. Maps and demographic data can be provided as evidence of such impacts.*

Currently, approximately 385 acres of Emeryville's 780 acres are zoned for commercial, industrial and mixed-uses. Of this commercial acreage, 76 acres (20 percent) are currently vacant, 158 acres (41

percent) are under utilized, and 213 acres (55 percent) are known to have soil and groundwater contamination. In addition, the portion of the City west of the SPRR tracks, which comprises nearly 45% of Emeryville, is built on landfill with varying levels of contamination. Most of the commercial areas with no known contamination have not been tested; however, given the history of industrial uses and landfill, the regulatory agencies assume that virtually all of the shallow groundwater in Emeryville's commercial/industrial areas is contaminated, and cannot be cost-effectively remediated to drinking water standards. (Exhibit "C" - Map of Brownfields and Landfill).

Emeryville's small size magnifies the impacts of vacant brownfields, compared with a larger city. The impacts are also felt outside the City, extending into parts of West and North Oakland. Brownfields have impeded redevelopment efforts in the following ways:

1. Cost: The estimated costs for testing and cleanup have ranged up to 50 dollars per square foot, exclusive of litigation and other legal costs. Prospective developers are hesitant to purchase and redevelop untested brownfields for fear of what environmental testing may uncover.

2. Risk: In instances where developers are willing to take on the cost of obtaining regulatory sign-off, they face the potential of dealing with two or three different regulatory agencies that may have jurisdiction over their site, and with adjacent properties contaminated by the subject site. Despite all the best efforts of various agencies to facilitate site review, the agencies are often bound by standards and procedures that are infeasible given the circumstances of the particular site. In many instances, the standards do not result in any additional protection of human health and the environment. This results in significant delay and lost investment. In addition, current owners are often unwilling to cooperate with the agencies in obtaining remediation because of the belief that it is cheaper to litigate than to clean up.

3. Community Isolation and Incompatible Land Uses: The presence of brownfields leads to incompatible land uses because owners are inclined to negotiate minimal cleanup and develop a project with most return on investments rather than uses that are compatible with the surrounding neighborhood. This practice takes land use decisions out of the hands of the citizens of the City and their elected officials and allows these decisions to be made based on economics and in non-public negotiations between owners and regulatory agencies. Because the City's residential areas are bordered by brownfields, these neighborhoods could eventually be surrounded by land that is fit only for commercial/industrial uses and not for residential, recreational, or educational uses.

4. Stigma: The brownlining of Emeryville stigmatizes the City in the eyes of prospective developers and investors of commercial and residential projects, and the prospective residents. It deters development of ownership housing, which is a primary goal of City housing policy, and the movement of families into the City.

5. Revenue: The economic impact of brownfields on the community is significant; over the past five years, vacant brownfields have cost approximately $13.3 million in lost property, sales, and business tax revenues, which represents 20 percent of the City's operating budget over the same period.

6. Lost Residential Opportunities: The Agency very actively develops housing, particularly low and moderate income housing, both rental and ownership. Of the 408 residential units constructed in Emeryville over the past five years, 49 percent have been subsidized by the Agency. Brownfields have had a financial impact on housing production and the future citizens of the City. Twenty percent of these lost revenues noted above could have been used to subsidize between 20 and 45 affordable housing units.

7. Lost Employment Opportunities: In the past five years, Emeryville has lost 450 jobs due to vacating industries, and face an additional 200 job losses next year. By slowing redevelopment, recovery of these jobs is delayed.

8. High Cost of Infrastructure. The City has found that brownfields inhibit road construction and other infrastructure improvements. For instance, the cost of installing sewers in brownfields is 80 percent higher than in uncontaminated land. Circulation and other infrastructure improvements are necessary to support the redevelopment of the City into more intensive uses. However, the cost and risk of building infrastructure in brownfields inhibits such construction.

9. Environment: While it is believed that, due to the hydrogeologic features of the City, the contaminated soil and shallow aquifers affect neither the deeper aquifers nor San Francisco Bay, additional data is needed to verify this belief. However, data is difficult to compile under the current piecemeal approach to remediation. When redevelopment is inhibited, remediation is inhibited. Hazardous materials remain in the soil and groundwater and pose a potential threat to the health and safety of the citizens of Emeryville and to the San Francisco Bay.

- *Describe the process by which brownfields site(s) have been or will be identified. If the specific site(s) have not been selected yet, describe the process by which the selection will take place.*

The California Environmental Protection Agency/San Francisco Regional Water Quality Control Board ("Regional Board"), a cooperative partner in this application, is actively involved in brownfields redevelopment and has instituted a progressive cleanup policy that would allow the City of Emeryville and Emeryville Redevelopment Agency (the "Applicants") to implement a City-wide risk management approach to cleanup ("Risk Management Model"). The main tenet of this risk management policy, also known as "Containment Areas," is that the shallow groundwater within Emeryville has limited existing and future uses. This policy recognizes the technological and economic infeasibility of remediating groundwater to drinking water levels and provides for alternative cleanup levels based on health-based and environmental standards in areas where there are limited environmental and health risks.

Under this approach, the current piecemeal, parcel by parcel approach to groundwater ccleanup will be eliminated in favor of a city-wide cleanup and risk management plan. The types and levels of contaminants, and risks associated with these contaminants, will be evaluated on a city-wide basis and cleanup levels will be established for the entire City based on the Containment Area principles and land uses.

This approach also recognizes that groundwater cleanups cannot be treated efficiently on a site-specific basis. Individual property owners will undertake site specific source removal to levels protective to human health and the environment. However, groundwater contamination, by nature, crosses parcel boundaries, co-mingles, and afflicts the entire City. While it is possible to determine individual responsibility, a more proactive approach involves identifying pathways of contaminated groundwater to humans and the environment, and solving these problems regionally and cooperatively, rather than on a piecemeal, site by site basis. Thus property owners can solve the problems together, rather than litigate against each other.

Specifically, the Applicants will consolidate all reliable soil, groundwater and hydrogeologic data based on numerous site specific studies conducted over the past decade. The Applicants will conduct additional hydrogeologic testing and soil and groundwater sampling to cover data gaps. Based on this information, the Applicants will construct a three-dimensional map that incorporates hydrogeologic, soil,

groundwater, land use and zoning information using GIS software, fate and transport modelling, and a City wide risk assessment. It will also identify areas that need immediate attention. Consultants will be retained to do this phase of the project.

The Applicants will convene a broad based community Task Force composed of representatives of regulatory agencies, community and environmental groups, developers, financial institutions, legal community, risk communication and public participation consultants and City staff. The Task Force will develop and implement a Mitigation/Risk Management Plan that will establish City-wide groundwater remediation standards based on risks, location and proposed land use. The Plan will include incentives to developers and current owners to take remedial measures, expedited dispute resolution procedures, cost sharing formulas, and a streamlined regulatory review process. The Task Force will also study the effects of brownfields on the community and develop solutions to identified problems. Potential actions include City or Agency sponsored soil/groundwater remediation, rezoning, and community and educational programs. An integral part of the Plan is the institution of a Mitigation Fund that will finance specific projects and provide long term insurance for the environment. The Task Force will evaluate different ways of raising funds for the Mitigation Fund. The Plan will then be submitted to the appropriate regulatory agencies for approval. Chart "A" illustrates the proposed actions to be taken under the project.

As more fully described in section 4, below, the first level of environmental review will be at the City level with the full technical and regulatory support of the Regional Board. Responsible parties will deal with one agency, the City, will have definite cleanup standards, and will understand all the costs and risks involved with remediation. In addition, the Applicant can pinpoint areas of special concern in the City and take measures to encourage cleanups in areas with the highest risks to health and the environment.

Value Added by Federal Support

- *Describe how you will use the EPA funding provided through the cooperative agreement to advance your overall brownfields goals and objectives.*

EPA financial support is required to fund the hiring of technical consultants to consolidate all available soil, groundwater, and geotechnical data, map existing contaminated sites and contaminant levels, conduct additional field testing to fill hydrogeologic data gaps, and do fate and transport modelling and risk assessments.

The Risk Management Model will introduce regulatory certainty into the environmental remediation process by establishing the approved cleanup levels and streamline the review and sign-off procedure. By reducing up-front investigation costs, establishing definite cleanup standards that are easily translated into dollars, and reducing the number of regulatory agencies and sets of applicable regulations, rules and procedures to one, the financial and regulatory risks involved with remediation will be virtually eliminated. Prospective purchasers/developers of brownfields can invest in the community knowing the time and costs of remediation in advance, lenders can lend knowing the real value of the land, and current landowners can enter into remediation agreements knowing that they are not aiming at a moving or infeasible target.

- *Describe other EPA assistance (technical, legal, enforcement, risk communication) that might be essential to your program.*

Currently, there is one site (Westinghouse) in Emeryville that is under the oversight of the EPA. The Applicants have consulted with the Project Officer assigned to this site and discussed the assistance

necessary to include this site as part of the City-wide containment zone. In addition, the Applicant will instruct the technical consultants to consider applying LandView II and may need assistance from the EPA in its application.

- *Demonstrate how this cooperative agreement will leverage additional resources, support, or assistance for addressing brownfields. Describe additional local, state, or federal sources of technical, financial, or regulatory support that you intend to access and how an EPA pilot may help gain that support. Provide any evidence of commitments of support from outside resources that will depend on, or be enhanced by, the cooperative agreement with EPA. Evidence can be documented through letters of support.*

By reducing the cost, delay and uncertainty associated with remediation, the Applicants believe that responsible parties will be more willing to commit funds to expedited cleanups, rather than litigation over responsibility. Further, because the groundwater contamination will be mapped, responsible parties will not be able to hide behind a lack of information and wait for the overburdened regulatory agencies to catch up to them. By establishing responsibility and cleanup levels, the Applicants will create a climate where it is in the best interests of the private sector to commence remediation. In addition, funding mechanisms are discussed in detail in section 3, below.

Additionally, the Applicants pledge to cover project expenses that the grant cannot cover (Exhibit "D"), including consultants in the fields of risk communication and community involvement. The grant will also leverage funds necessary for technical consultants to the Task Force, including preparation of visual aids and informational brochures and other community outreach programs. City staff will provide administrative assistance to the volunteer Task Force and the grant will not be used for any administrative costs of the Applicants or the Task Force. The grant will also help leverage in-kind technical assistance from consultants in the Emeryville and environmental community.

Through a cooperative agreement, the Applicant will be able to obtain technical and regulatory support from the Regional Board, the California Environmental Protection Agency, Department of Toxic Substance Control (DTSC), and the Alameda County Department of Environmental Health (Exhibit "E").

2. COMMUNITY-BASED PLANNING AND INVOLVEMENT

Existing Local Commitment

- *Provide evidence of your community's or communities' interest in brownfields problems (e.g., letters of support). Describe your efforts to involve community-based organizations in developing this proposal. Provide a list of the community-based organizations involved and a contact person, phone number, and brief description of the organization's activities and representation. These organizations may include, but are not limited to, local citizen groups, environmental organizations, civic organizations, local business groups and institutions, educational institutions, and local labor organizations. Evidence of interest can be documented through letters of support.*

Various community-based organizations have expressed concern with the cleanup of brownfields in the community. Emeryville Community Action Program (ECAP) and the Emeryville Unified School District (EUSD) both contributed toward the formulation of this proposal, and are cooperative partners in this application. ECAP is a non-profit, volunteer organization that provides help to Emeryville's senior citizens,

youth, homeless and other needy families. ECAP promotes the welfare of the Emeryville area by networking with the local public and private entities. In addition, the Applicant solicited suggestions from various groups, and has invited representatives of these groups to participate in the Task Force. The letters of support from these community groups, as well as from property owners, developers and banks, are found in Exhibits "F" through "L."

Emeryville Community Action Program, (ECAP) - (510)652-8422
Nellie Hannon, Director

Emery Unified School District, (EUSD) - (510)420-7176
Ronald Mooney, President

Emerybay Village Homeowner's Association
(510)655-1729
Jim Golden, President

Pacific Park Plaza Homeowner's Association
(510)457-8888
Kris Owens, President

East Bay Asian Local Development Corp., (EBALDC) - (510)287-5353
Mi Yeong Lee, Planner

Resources for Community Development, (RCD) - (510)841-4410
Dan Sawislak, Interim Director

Bridge Housing Corporation
(415)989-1111
Carol Galante

Alameda County, Economic Development Advisory Board - (510)272-3889
Mary Ortendahl

Emeryville Industries Association
(510)658-3223
Dan Bodner, Vice-President

Emeryville Chamber of Commerce
(510)652-5223
Barbara Azad, Executive Director

- *Describe your efforts to develop partnerships at the local and state level with other stakeholders to ensure appropriate cleanup and redevelopment of brownfields. Stakeholders may include affected public authorities, citizens, responsible parties, current owners, potential future owners, chambers of commerce, lending institutions, developers, labor groups, and other organizations interested in brownfields cleanup and redevelopment.*

The Applicant is a partner with developers and property owners for the redevelopment and cleanup of brownfields. Through Development Agreements and Participation Agreements with Kaiser Permanente and Chiron Corporation, the Applicants will see the remediation of over 45 acres. In the latter case, the Redevelopment Agency has pledged tax increment money (essentially a credit against future tax revenues generated by Chiron) to aid Chiron in a multimillion dollar cleanup of a site designated to be a premier biotechnology research center in the state of California. This money was pledged due to the recognition that development in brownfields entails extraordinary costs that would not be incurred in greenfields and to provide incentives to keep Chiron from abandoning the City and moving to greenfields.

The Applicant entered into a Voluntary Cleanup Agreement (VCA) with DTSC for a 10.5 acre parcel, and is working with several property owners to effect a regional approach to cleanup for an area covering 50 vacant and underutilized acres, including the parcels covered under the VCA. The Applicant is also working cooperatively with the EPA, Regional Board, Westinghouse Corporation and Wareham Development for the reuse of 14 acres of blighted property. Exhibit "M" contains a map, list and photos of proposed brownfields redevelopment sites.

- *Describe the progress that you and your community have made in the assessment, cleanup, revitalization of brownfields.*

Emeryville is one of the first communities in the Bay Area to aggressively pursue redevelopment of brownfields. Over the past ten years, the Applicants, with the cooperation of regulatory agencies, have implemented the Containment Area approach to redeveloping site-specific brownfields, thereby adding 6,000 jobs for residents of Emeryville, Oakland and other neighboring cities and adding 740 housing units. The housing projects include housing for low income disabled persons and their families, low income persons with AIDs, and a proposal to build low income housing in the same building as a job training and job search facility. One example of a business development involves the reuse of a 30-acre former asphalt processing plant into a mixed-use retail, office, entertainment and residential complex.

A second example involves the construction of an Amtrak station, where a private developer, the Applicants, and Regional Board cooperated for the development of a transit center on property that was contaminated and vacant for many years. This will serve as a catalyst for redevelopment in the property owned by the Westinghouse Corporation, described above.

Another example of the application of the Containment Area principle involves the redevelopment of over 30 acres that formerly contained a former truck depot and rail yard. Through the cooperation of ACDEH, Regional Board, the Applicant, the City of Oakland and Catellus Development, the construction of 430,000 square feet of regional retail, and associated infrastructure was made possible. The project has greatly improved access and services to a long neglected area of the City and of West Oakland, including the development of the only supermarket in the area. Two hundred units of housing, including low income housing, are also proposed for the site. These, and other examples of brownfields redevelopment, are found in Exhibit "N."

Because of the small size of the Applicants' administrative bureaucracy – numbering approximately 35 persons, including professionals and staff – and the Applicants' commitment to efficient and effective government, citizens, regulators, and developers have easy access to key policy makers and are provided a forum at the staff and the Council level. Besides a willing and able staff, there is strong market demand for redeveloping brownfields in Emeryville.

Community Involvement Plan

- *Describe your plans for ensuring the future, long-term involvement of your communities. Describe existing or proposed processes for actively seeking and using their input. Describe how affected communities will be involved in the selection of sites for the brownfields pilot, future land-use decisions, and site ownership decisions.*

The meetings of the Task Force will be properly noticed and open to the public. The public will have the opportunity to express their views at public hearings and to provide written comments on the Mitigation Plan and its application. The public ideas will help decide the broad outline of the type of management plans and mitigation projects that should be included as part of the Risk Management Model and will help define the specific issues to be addressed by any particular redevelopment project under the Model. In addition, the Applicants currently use standard methods of seeking public input, such as notification of property owners through posting, noticed public informational meetings and study sessions, and agenda mailings to interested groups and agencies.

ECAP and EUSD represent the communities that are most affected by brownfields and are most aware of the appropriate land uses, and development and community programs that will improve the economic and environmental outlook of East Emeryville. As members of the Task Force, the needs of the disadvantaged communities of Emeryville will be represented during the formulation and implementation of the Mitigation/Risk Management Plan. In addition, the Applicants will take advantage of the networking and organizing skills of ECAP to provide outreach to members of the community who do not normally participate in the government process.

- *Describe your long-term plans for communicating technical environmental information to the public to help clarify consequences and facilitate discussion of activities performed under the brownfields program. Discuss any special communication needs of disadvantaged communities and how you plan to meet those needs. Describe the expertise available in your area that you might access, such as risk communication specialists, environmental professionals, community colleges, technical associations, and other community-based organizations.*

All technical information completed for the Task Force will be made available to all concerned parties, including at libraries, the Police station and the City offices. The Task Force Committee will go before the community and make periodic presentations before business, developer and community-based organizations at different locations within the City. In addition, meetings and notices may be televised and broadcast over cable television.

The Applicant will retain the services of risk communication and public participation consultants to help the disadvantaged community understand the effects of brownfields and evaluate different solutions. This will be accomplished through workshops and preparation of brochures that will explain the highly technical and legal information in plain English. The partnership with ECAP and EUSD will help the Applicant reach the target population. All information and meetings will be accessible to persons with disabilities.

The Applicant will use the technical communication skills of the staff of the regulatory agencies, and such specialists whose services may be obtained for the Task Force. Emeryville is in the heart of the San Francisco Bay Area and the human resources are innumerable among academic, governmental, and private and community organizations.

Environmental Justice Plan

- *Environmental justice seeks to rectify the disproportionately high burden of environmental pollution that is often borne by low income, minority, and other disadvantaged communities. Describe how these communities have participated in the development of your brownfields plans and will continue participating in their implementation.*

Through ECAP, EUSD, other groups participating in the Task Force, and community out reach programs, the community will have a voice in the formulation of the Mitigation/Risk Management Plan. It is important that brownfields are redeveloped into uses that are compatible with existing land uses and that unite the disadvantaged communities of East Emeryville with the rest of the City. The Task Force will design community programs to make the public more aware of environmental issues and to improve the environmental quality of their neighborhood.

Through the Mitigation Fund, a component of the Risk Management Model described below, the Applicants will provide benefits to improve the environment of all citizens, including the economically disadvantaged. The Applicants believe that environmental education, including citizen rights, community

programs and physical improvements to enhance the environment could be provided to the disadvantaged citizens. The transfer of dollars from unnecessary groundwater cleanup to the fund, administered by the City, will allow the local community a voice in acceptable environmental risks, tradeoff issues and mitigation projects.

- *Describe your plans for ensuring that affected disadvantaged populations benefit environmentally and economically (directly or indirectly) from the assessment, cleanup, and reuse of brownfields as proposed in your application. Describe how you plan to ensure that environmental risks to disadvantaged communities are not increased during assessment and cleanup or as a result of redevelopment.*

Disadvantaged populations in Emeryville primarily live in neighborhoods bordered by brownfields. The Applicants' program will investigate contamination, identify areas that pose a threat to health and safety, hasten remediation of those areas, and bring cleanup decisions into the hands of the community. To an extent not currently available, neighbors of these areas will be given the opportunity to participate in the regulatory process by which cleanups are achieved and to play a central role in the determination of what risks are acceptable and what risks are unacceptable. By ensuring that the community is involved in decisions concerning cleanups, land use, community programs and facilities and housing opportunities, the Applicants will ensure that the affected populations will benefit environmentally from the brownfields program.

The economic benefits of the cleanup of brownfields for disadvantaged populations cannot be overstated. The Applicants are active in the construction of low income housing and can make limited housing dollars stretch further with the application of the Risk Management Model. Redevelopment of brownfields will create jobs at all income levels and increase tax revenues for the Applicants and for the school district. In addition, redevelopment will erase urban blight and create a more attractive and livable environment for the population of Emeryville.

The Applicants recognize that the physical environment is only one element, albeit a crucial element, of the human environment in which we all live. Besides creating environmental awareness programs, the Applicants plan to use the interest on the Mitigation Fund to fund programs such as midnight basketball and other youth programs. Thus, remediation of the physical environment will promote the remediation of the social environment and benefit disadvantaged communities in all aspects of the human environment.

Safeguards will be built into the cleanup decision making process to ensure that adjacent properties will not be adversely affected during cleanup. In addition, the terms of the management plans will contain provisions such as monitoring and other types of restrictions and notification procedures to insure that risks remain at low or nonexistent levels.

- *Describe other steps you have taken or plan to take (outside of the brownfields program) to achieve an appropriate level of environmental quality in disadvantaged communities near brownfields.*

Through its Environmental Programs Division, the City has established several innovative programs to protect the environment while helping its disadvantaged communities. For example, the City has a successful free shuttle bus program, which is fully handicapped-accessible, to businesses, shopping, residential and transportation centers. The Agency has funded and built an Amtrak station. These efforts enhance air quality and provide for the needs of our economically disadvantaged citizens. These programs were designed and approved with full public notification and involvement. The City also sponsors a storm water public participation program to encourage citizens to get involved in protecting San Francisco Bay, and provides information to the public on proper disposal of hazardous household wastes.

The Applicant has remediated, subsidized and reused brownfields for community facilities throughout the City, and particularly in East Emeryville, including three parks, a child development center, and a senior housing facility (Exhibit "M," #8 - 12).

3. IMPLEMENTATION PLANNING

Appropriate Authority and Government Support for Remediation

- *Describe the legal authority-for example, state or municipal Superfund or voluntary action programs or other local, state, Territorial, or Tribal regulatory programs-available for identifying, assessing, and remediating brownfields.*

- *Provide evidence of support from state and local environmental, economic development, and heath agencies. Evidence of support can be documented through letters from these agencies.*

The City of Emeryville and the Emeryville Redevelopment Agency are joint applicants for the Brownfields Initiative. The Agency assists private developers in overcoming barriers to redevelopment and develops abandoned and under utilized properties. Approximately 80 percent of Emeryville's land lies within two redevelopment areas which are characterized by physical and economic blight.

The Risk Management model will operate under the legal authority of the State Water Resources Control Board, the California agency responsible for groundwater in the state, through the Regional Board. The Regional Board has incorporated the Containment Area policy into its Water Quality Control Plans (Basin Plan), approved on August 17, 1994, and has regulatory oversight authority, pursuant to the California Water Code, to approve the Risk Management model for cleanup and redevelopment. The ACDEH, which oversees cleanup of underground petroleum tank leaks, and the DTSC, which oversees soil remediation, support this program. EPA Region IX has also expressed its support for the program.

The Applicants themselves are the city and the local economic development agency. The Applicants have an excellent track record of implementing projects and take particular pride in operating effectively and efficiently. As a small city with an innovative staff and a proven track record, the Applicants can act quickly. Redevelopment is a priority issue with the Applicants and they are committed to action.

Proposed Cleanup Funding Mechanism

- *Demonstrate the link between your brownfields program and the eventual cleanup of contaminated areas by identifying potential sources of funds for remediation. Funding sources may include potentially responsible parties, potential purchasers, financial institutions, or state and local funding programs (funds from an EPA brownfields cooperative agreement cannot be used for site cleanup activities). Evidence of support from these parties can be demonstrated through letters from their organizations.*

There are several potential sources of cleanup funds. Many responsible parties have committed to remediate brownfields. Responsible parties, owners and developers have said that the development of the Risk Management model for redevelopment would alleviate much of their concern regarding commitment of resources to brownfields redevelopment. (Exhibit "K"). There are a variety of methods discussed below by which these parties can generate funds:

1. Mitigation Fund. Because the risk management model stresses pathways to humans and the environment, and does not stress cross contamination among neighboring parcels, financial and technical resources can focus on regional remediation and feasible cleanup standards. This will reduce clean up costs

and will allow a system to be established by which a portion of the savings in cleanup costs will be deposited into a Mitigation Fund, administered by the City, for uses, which could include, but not be limited to, a revolving remediation loan fund for property owners who cannot obtain funds for remediation requirements, a city-wide groundwater monitoring/remediation fund, for cleanup of areas where the private funding is unavailable, and insurance against future upsets. The method of calculating contributions and other uses of the Mitigation Fund will be developed by the Task Force.

2. Property-based exactions. Additional resources also come by way of possible formation of assessment districts or special taxes, in which each property is assessed/taxed according to its contribution to the overall groundwater problem in Emeryville. The assessment/tax spread will be determined by the Task Force and must be approved by voters or property owners. Because the application of a risk-based model assuages uncertainties and reduces clean up expenses, property owners may agree to the institution of a special tax, such as a Mello-Roos, or assessment district, to fund remediation requirements.

3. Financial Institutions. Should the risk management model be approved and recognized by all regulatory agencies, lending institutions would be more apt to finance development of projects in brownfields, including financing actual remediation of property.

4. Joint Ventures. Where RP's, property owners or developers cannot afford or finance ccleanup the Applicant may opt to enter into joint venture partnerships to assist in the redevelopment with the objective of recouping investments at a later date.

5. Tax Increment Financing. Tax increments are realized where there is an increase in property taxes of a property due to appreciation and/or construction of improvements. The Agency may contribute or lend a portion of tax increments generated toward remediation.

Flow of Ownership Plan

- *Describe the anticipated flow of ownership of brownfields properties throughout the process of assessment, cleanup, and redevelopment. Potential scenarios for transferring ownership may include a direct transfer of ownership to a purchaser or interim ownership by a public authority, court-appointed trustee, or bankruptcy authority. If possible, demonstrate commitments or interest from potential future owners through letters of support.*

The Applicants expect transfer of ownership will occur through standard market processes. The purpose of the program is to encourage private cleanups and decrease direct government involvement in land ownership. The issues of liability and overall cost for groundwater cleanup has been a deterrent for many developments. The project will clear up liability issues and decrease remediation costs by giving the developers certainty as to cleanup goals and by creating a process that will allow a developer to contribute part of the cleanup savings to the mitigation fund to decrease his or her future liability. The Agency role in redevelopment has been to facilitate these market transactions and not to purchase or bank brownfields property pending redevelopment. The Applicant believes the Risk Management model will accelerate direct property transfers in the current manner.

However, under certain circumstances, the Agency may take interim ownership. Under state law, the Agency can, in certain circumstances, obtain and transfer immunity from environmental liabilities to a prospective developer who is not otherwise a responsible party and who agrees to cleanup the property. Agency ownership also may be necessary to cause immediate remediation when a current property owner is unable to do so.

- *Describe the problems, particularly with respect to liability, associated with the ownership scenario that you anticipate. Describe how you plan to address these problems, including through partnerships with stakeholders, such as chambers of commerce, business groups and institutions, and lending institutions.*

Prospective purchasers, developers and financiers are apprehensive of purchasing, financing or developing contaminated property and the Applicants' program is designed to assuage the problems associated with the current ownership scenario without drastically increasing government interference with the private flow of property.

The primary problem identified by the Applicants is that lending institutions and prospective purchasers may have concerns regarding stigma of inclusion in Containment Zones and possible third party liabilities from less restrictive clean up standards. To a large degree, the Mitigation Fund should assuage those concerns by providing an insurance fund against future problems. The Task Force will explore means of mitigating these concerns, including prospective purchaser agreements or other means of effecting a Containment approach without the Containment Zone label.

Environmental Assessment Plan

- *Describe your plans to ensure the use of quality environmental sampling and analysis procedures necessary for sound environmental assessments of brownfields. Describe your plans for assessing the technical environmental expertise in your state or region.*

The City will rely upon the continuing involvement of the Regional Board, ACDEH and DTSC to provide the review of all plans for environmental data collection. The Regional Board has published documents on sampling and analytical methods and is recognized for the soundness of their cleanup expertise. Emeryville and the Bay Area are overflowing with qualified technical consultants. The Applicant intends to periodically solicit proposals for the technical work to ensure competitiveness and quality of work. Members of the Task Force will also help in assuring that proper procedures are employed throughout the development process.

4. LONG-TERM BENEFITS AND SUSTAINABILITY

National Replicability

- *Describe the local barriers that you will face in revitalizing brownfields. Describe the technical and managerial methods, particularly innovative methods, that you plan to implement to address these barriers and facilitate brownfields cleanup and reuse. Innovative methods may include planning for environmental friendly future land use, zoning processes that incorporate environmental quality, new cleanup technologies, environmental awareness training, environmental justice planning, or other methods to institutionalize environmental policies. Describe how any innovative methods will be implemented.*

The project will show the benefits that can be achieved when cities cooperate with regulatory agencies and the community to facilitate cleanup and development of brownfields. A major administrative obstacle to cleanup and reuse is regulatory uncertainty. Different regulatory agencies with overlapping jurisdictions often impose different requirements for the cleanup of the same piece of property. A Risk Management model formulated with the participation of all agencies will eliminate red tape, confusion and regulatory Catch-22's.

Ultimately, the Applicants and the Regional Board envision that the first level of environmental review will be at the City level. The Regional Board will provide technical and regulatory oversight of the

City's administration of the Risk Management model. Thus, control over what are, at heart, land use issues will be given back to the City and back to the people who live in the communities affected by such decisions, without sacrificing protectiveness or technical expertise. This management method will simplify the process for developers, particularly small unsophisticated individuals, who will interact with the City for virtually all of the necessary approvals and regulatory oversight. This method will also simplify the process for neighbors and other citizens who wish to participate but who do not understand how to negotiate the intricate maze of state, federal and local regulators.

A major obstacle to cleanup and reuse of brownfields is litigation among neighboring brownfields. Regulatory uncertainty increases the risk and costs of cleanups and people are inclined to litigate rather than remediate. Through Task Force discussions, all stakeholders must be convinced that by increasing certainty and decreasing the administrative, and the actual costs of cleanup, cleanup will become more cost effective than litigation. With regulatory certainty the need for enforcement actions will be decreased. With a regional approach to sensible cleanup objectives, all property owners are more likely to cooperate than litigate.

All these lessons are applicable in any area where the existing and future uses of groundwater are minimal and the environmental and health risks are limited. As stated above, the State Water Quality Control Board is expected to implement the Containment Area policy in the future, thereby making Emeryville's program potentially applicable state wide. It is generally recognized that California is a leader in environmental issues and it is possible that other states will follow this model. This model is also applicable in areas of co-mingled plumes and will prove that cooperation among property owners simplifies cleanup.

The Risk Management model will show two innovative processes. The technical process innovation allows ground water cleanup decisions to be made on an area-wide basis rather than a strict site by site basis. This area-wide approach is allowed where there are limited environmental and human health risks.

The project will show an innovative management process in California. As for soil contamination issues, the containment area policy will require individual landowners/developers to prepare "management plans" to insure that the residual risks due to soil contamination remain low, remaining contaminants are contained and that adverse impacts are mitigated. The Task Force and the regulatory agencies will develop a process by which the future responsibility for these plans is transferred to the City. The City will then be empowered to combine traditional responsibilities of zoning and land use, with environmental and cleanup decisions. The Mitigation Fund described above could be used to provide projects for the benefit for the citizens of Emeryville, including environmental awareness and environmental justice programs.

- *Given the complexity and local nature of the problem, no single plan will applicable nationwide, but how you address specific barriers may provide lessons for others with similar problems. Describe how this project can serve as a model for others to use in addressing barriers to revitalizing brownfields.*

Brownfields often exist with other problems - lack of infrastructure and community services. Mere redevelopment of brownfields may not mitigate or may even worsen the predicament of disadvantaged communities. Because many brownfields resulted from large vacated industrial tracts, a conscious effort must be made by local planners to scale future uses with those of the surroundings and to provide adequate infrastructure and services.

Measures of Success

- *Describe your plans for measuring success in achieving your brownfields pilot goals. Please ensure that your measures of success are linked to the goals established for your pilot project. Measures of success may include environmental indicators, economic indicators, institutionalized environmental or communication processes, or other indicators of what you would consider a successful brownfields program.*

The main measure of success will be achievement of consensus among the various stakeholders in developing a Risk Management model that is in the economic and environmental best interest of all the citizens of Emeryville. The next measure will be submittal of the model to the Regional Board for a Containment Area designation. Receiving the approval of the Regional Board for the Applicants' Risk Management model and designation of Emeryville as a Containment Area may not occur during the project period, but it will be the next milestone measure of success. Additional measures will include an increase in the number of properties under remediation and development and a decrease in cleanup time. As part of the project, water quality at the perimeter of a risk managed area will be monitored. Over time, an improvement in water quality will prove the success of the project. Additional measures of success will include the size of the Mitigation Fund and number of benefits provided by the fund. On the economic side, the measures are increases in number of affordable housing units provided and population due to redevelopment. Other indicators could include increased training/internship opportunities at Emeryville businesses for local students. The City will establish a data base management system to incorporate baseline data and provide periodic collection of data for measures of success.

- *Describe baseline measures that you have developed or plan to develop for the measures of success. If baseline measures have not been developed yet, describe how and when you plan to develop them.*

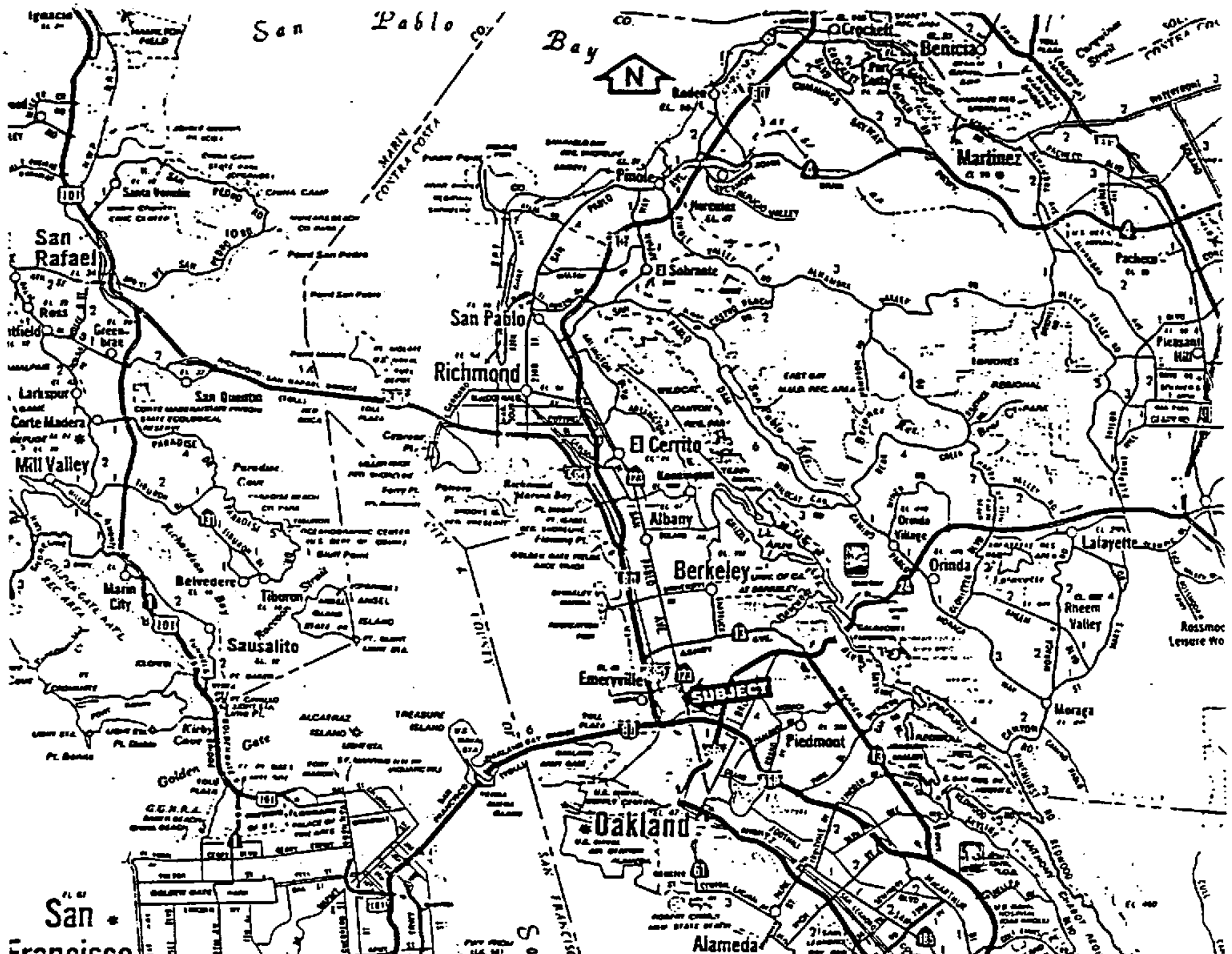
- *Describe any reports or other deliverables you plan to provide to EPA as documentation of your project's progress and success.*

During the process of establishing a containment zone, the reports that will be submitted include a GIS mapping of the hydrogeology, soil and groundwater contamination, risk assessment report, soil cleanup standards for various land uses and zones, and Mitigation/Risk Management Plan, that would specify locations that require groundwater cleanup, locations of wells that require monitoring, measures to reduce impacts on affected communities, and approved uses of the Mitigation Fund. Since the Mitigation/Risk Management Plan requires public hearing before regulatory agencies, copies of notices and meeting minutes will be provided to the EPA. Reports that show success to the EPA would include data on housing starts, new employment, sales tax and property tax revenues.

List of Exhibits

Exhibit A

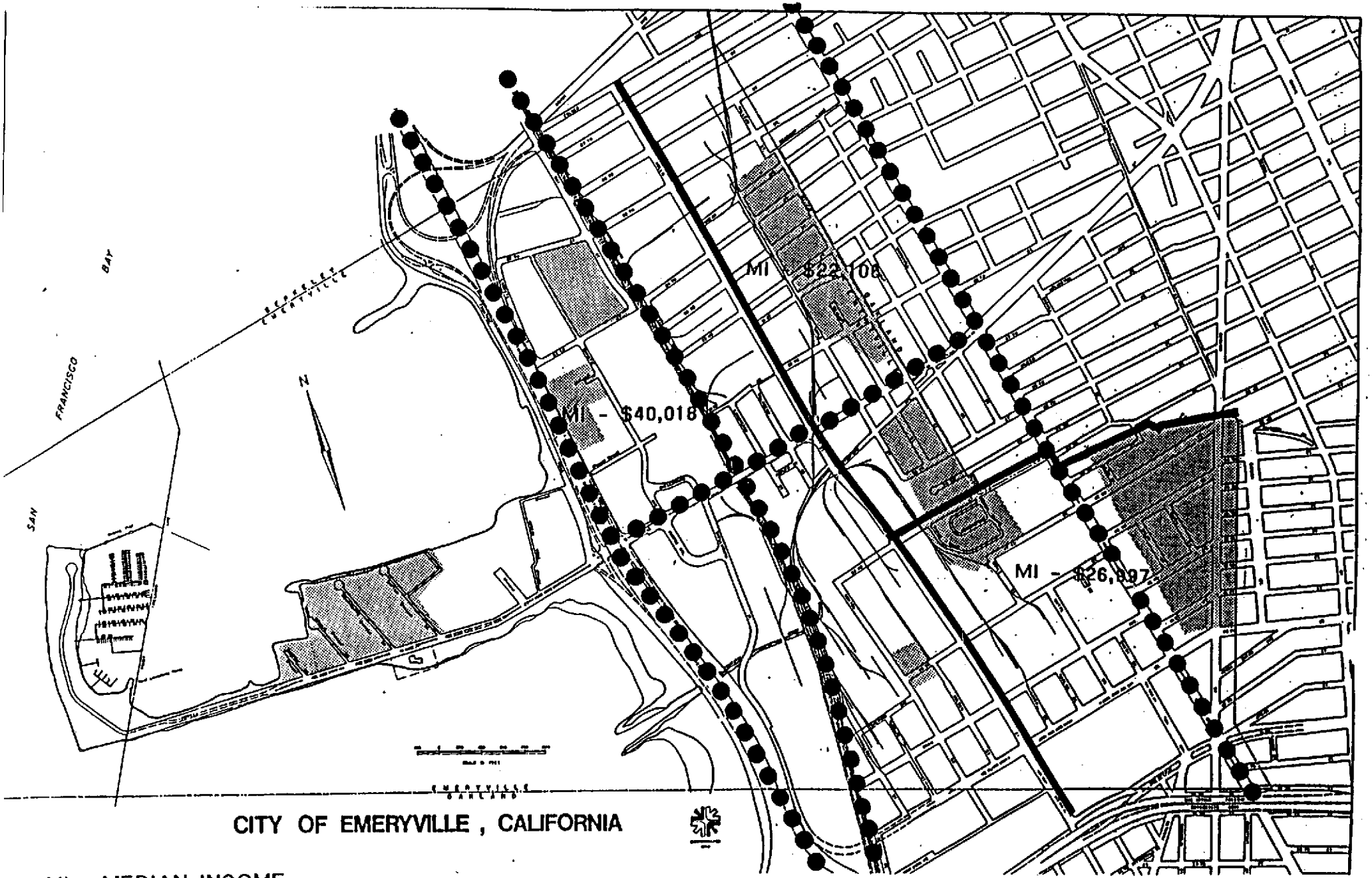
Vicinity Map



San Pablo Bay
N
SUBJECT
San Rafael
Richmond
San Pablo
El Sobrante
Pinole
Hercules
Rodeo
Crockett
Benicia
Martinez
Pacheco
Pleasant Hill
El Cerrito
Kensington
Albany
Berkeley
Orinda
Orinda Village
Lafayette
Rheem Valley
Moraga
Emeryville
Piedmont
Oakland
Alameda
San Leandro
Castro Valley
Ashland
San Lorenzo
Hayward
Larkspur
Corte Madera
Mill Valley
Belvedere
Tiburon
Sausalito
Marin City
San Quentin
Greenbrae
Ross
Golden Gate
Treasure Island
Alcatraz Island
San Francisco
Daly City
Brisbane
Colma
South San Francisco
San Bruno
Pacifica
Millbrae
Burlingame
Hillsborough
San Mateo
Foster City
Linda Mar Dist.
Pedro Pt. Dist.
Rockaway Beach Dist.
Vallemar Dist.
Sharp Park Dist.
Pacific Manor Dist.
Edgemar Dist.
Alvarado Dist.
Lake Chabot
San Francisco Bay

Exhibit B

Income and Physical Barriers Map



CITY OF EMERYVILLE , CALIFORNIA

MI - MEDIAN INCOME

AREA MEDIAN INCOME - $40,621

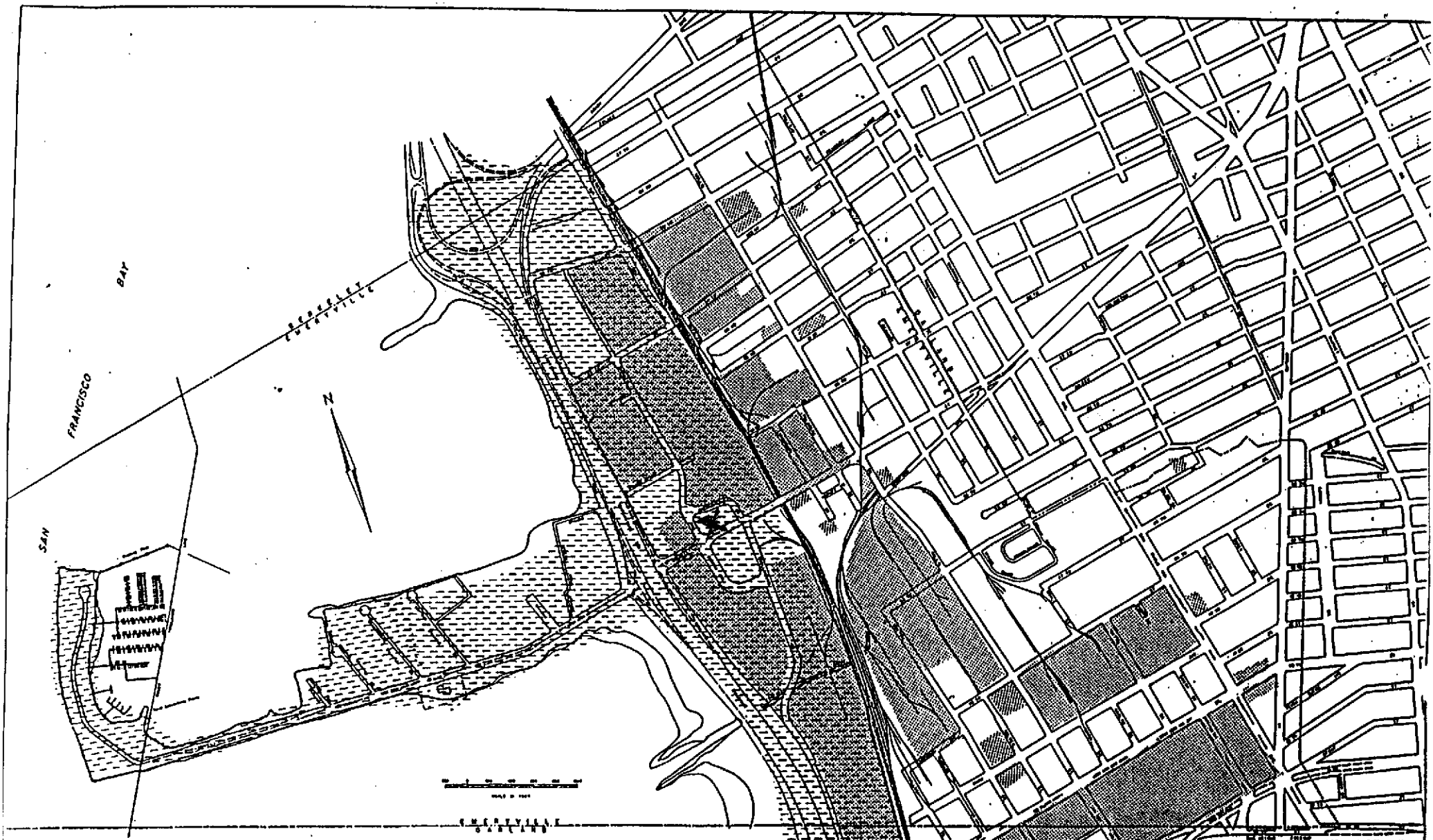
CITY MEDIAN INCOME - $35,655

RESIDENTIAL AREAS

MAJOR ARTERIALS/RAILROAD TRACKS

Exhibit C

Brownfields and Landfill Map



CITY OF EMERYVILLE , CALIFORNIA

KNOWN CONTAMINATED SITES

LANDFILL

X - CROLEY SITE

Exhibit D

Funding Commitment from Applicant

CITY OF EMERYVILLE
REDEVELOPMENT AGENCY
2200 POWELL STREET, SUITE 1200
EMERYVILLE, CALIFORNIA 94608
(510) 596-4350

November 16, 1995

U.S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20460

Re: City of Emeryville and Emeryville Redevelopment Agency
Brownfields Economic Redevelopment Initiative Proposal
Funding Commitment

The City of Emeryville is a growing residential and commercial city struggling to revitalize amid brownfields. While the City has been successful in redeveloping brownfields into housing and commercial developments, much remains to be done.

The City finds that the main stumbling block to redevelopment is the uncertainty associated with obtaining sign-off on brownfields redevelopment. Application of Emeryville's risk management model will virtually eliminate uncertainty and speed up investment in the community.

The EPA's grant toward the Emeryville proposal will help fund a large portion of the technical studies that need to be accomplished for a risk management model. The City of Emeryville commits to cover up to an additional $225,000 towards other tasks necessary to complete the project.

Please phone me at (510)596-4350 if there are any questions on this matter.

Sincerely,

PATRICK D. O'KEEFFE
Director, Deprtment of
Economic Development and Housing

Exhibit E

Letters of Support from Regulatory Agencies

California Environmental Protection Agency/
San Francisco Regional Water Quality Control Board

California Environmental Protection Agency/
Department of Toxic Substances Control

Alameda County Department of Environmental Health

Environmental Protection Agency - Region IX

STATE OF CALIFORNIA – CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, Governc

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
2101 WEBSTER STREET, Suite 500
OAKLAND, CA 94612
Tel: (510) 286-1255
FAX: (510) 286-1380
BBS: (510) 286-0404

November 6, 1995

U.S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff [5101]
401 M Street, SW
Washington DC 20460

Subject: **Project Proposal by the City of Emeryville to the U.S. EPA**
Risk Management Model for Accelerating Brownfields Redevelopment

Dear Madam/Sir:

I have reviewed the the City of Emeryville's proposal to be submitted to the U.S. Environmental Protection Agency for funding under the Brownfields Initiative. This state agency supports the City's efforts to undertake such a project. The City's proposed "risk management" model for redevelopment incorporates provisions of the Non-Attainment Policy previously adopted by this Board in its Basin Plan and as now being currently considered at the state level. Staff of this Board have also participated this past year in the City's efforts to implement provisions of the Basin Plan's Non-Attainment policy in Emeryville.

This Project will provide much of the necessary technical and risk management information to allow staff to recommend that the Regional Board consider approval of the "risk management" model for redevelopment. Successful application of this proposal could be a model for other Brownfield areas.

Please call me (510-286-1307) or Dr. Ravi Arulanantham (510-286-1331) or Steve Morse (510-286-0304) of my staff if you have any questions.

Sincerely,

Lawrence P. Kolb, PhD, P.E.
Acting Executive Officer

have the potential for broad applicability. With funding from the Brownfields Economic Redevelopment Initiative, Emeryvilles's program will be much enhanced.

If you have any questions, please call me at (510) 540-3843.

Sincerely,

Barbara J. Cook, P.E., Chief
Site Mitigation Branch

cc: Mr. Ignacio Dayrit
City of Emeryville
Redevelopment Agency
2200 Powell Street
Emeryville, California 94608

STATE OF CALIFORNIA – ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, *Governor*

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
REGION 2
700 HEINZ AVE., SUITE 200
BERKELEY, CA 94710-2737
(510) 540-3843

November 14, 1995

United States Environmental Protection Agency
Outreach and Special Projects Staff
401 M Street,
Washington, D.C. 20460

Brownfields Economic Redevelopment Initiative Selection Panel:

CITY OF EMERYVILLE BROWNFIELDS PILOT PROJECT

The California Department of Toxic Substances Control (DTSC) has lead regulatory responsibility for remediation of several hazardous substances release sites involving redevelopment within the City of Emeryville (CITY). As Branch Chief of the North Coast California Site Mitigation Branch for DTSC, I am writing in support of the City's application for designation as a Brownfield Pilot Project. The City and the DTSC are working cooperatively on the cleanup and redevelopment plans for the 50 plus acres. Through this experience, we have shown the value of collaboration between the cleanup agency and the local land use authority during the cleanup process.

The "Risk Management" based model proposed in the City's application will assist our Department and other Agencies involved in the site cleanup in this area. Specifically here having an up-front evaluation and decision has to what groundwater cleanup if any would be required will allow parties to focus the investigation and remediation to achieve the proposed land use. The United States Environmental Protection Agency funding of Emeryville's Brownfield Pilot Project will enable the City to develop efficient and accurate tools with which to develop this Risk Management Plan.

The DTSC is sincerely interested in the development of management tools that allow for redevelopment of the hazardous substances release sites. We believe that the City of Emeryville has taken many creative and useful steps in this direction that

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, DIRECTOR
DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6777

February 24, 1995

Mr. Ignacio Dayrit, Project Director
City of Emeryville
Redevelopment Agency
2200 Powell Street
Emeryville CA 94608

Subject: Project Proposal by the City of Emeryville to the U. S. EPA
Risk Management Model for Accelerating Brownfields Redevelopment

Dear Mr. Dayrit:

I have read the project overview for the proposal you have submitted to the Environmental Protection Agency regarding the Brownfields initiative. This agency has been involved in your effort over the last year to implement the Regional Board Basis Plan Policy on non-attainment areas in the City of Emeryville.

As the agency under contract to provide cleanup oversight for LUST sites, we support the project. The Project will provide much of the necessary technical and risk management information to allow me to recommend that the Regional Board consider approval of the "risk management" model for redevelopment.

You have my support and encouragement.

Very truly yours,

Rafat A. Shahid, Director

RAS:RA-fh

D006\Emeryville.001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

NOV 14 1995

In reply, refer to H-W-4

Mr. Ignacio Dayrit, Project Director
City of Emeryville
Redevelopment Agency
2200 Powell Street
Emeryville, CA 94608

Dear Mr. Dayrit:

I have reviewed the Brownfields initiative proposal for "Risk Management Model for Accelerating Brownfields Redevelopment for the City of Emeryville". The Office of Underground Storage Tanks at EPA Region IX supports your efforts to undertake this project. The use of a "Risk Management Model: is compatible with our efforts to encourage the use of Risk-Based Decision Making to address cleanup of leaking underground storage tanks.

This undertaking will require participation, cooperation and input from a variety of parties. The proposal as written appears to be well thought out and includes the appropriate cooperative partners to ensure the maximum potential for success.

Please call me or Martin Rodriguez of my staff at (415) 744-2076 if you have any questions.

Sincerely,

Christie Becker for

Patricia D. Eklund, Chief
Office of Underground Storage Tanks

cc: Bobbie Kahan
James Giannopoulos, SWRCB
Larry Kolb, RWQCB
Rafat Shahid, Alameda County

Exhibit F

Letters of Support from Community Groups

Emeryville Community Action Program

Emery Unified School District

ECAP

Emeryville Community Action Program

4331 San Pablo Avenue ♦ Emeryville, CA 94608 ♦ 510/652-8422

November 14, 1995

U.S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20460

Subject: Brownfields Economic Redevelopment Initiative
City of Emeryville Proposal

We have participated in the formulation of the Project Overview, Budget and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U.S.E.P.A.'s Brownfields Redevelopment Initiative.

Our organization represents feeding and clothing the less fortunate citizens of Emeryville and the East Bay Community. Our Mission Statement is as follows:

> "The mission statement of (ECAP) Emeryville Community Action Program, a non-profit organization is to assist in providing help for our senior citizens, the youth, the homeless, and other needy families who are less fortunate than others within the Emeryville community."

We have worked with the City of Emeryville/East Bay Community on such projects as the Alameda County Health Care Services, Counseling services, Domestic Violence Resource List, Substance Abuse Programs, Housing assistance, Job Hot Line, Child Protective Service, the Squires Program and youth tutoring.

We support the City of Emeryville's proposal to develop brownfields into viable housing and commercial communities. We also intend to participate as a member of the Community-based Task Force in formulating mitigation actions and programs to improve the quality of life for the Emeryville and East Bay Community.

Please call Ms. Nellie Hannon at 510/652-8422 if you have any questions.

Very truly yours,

Nellie Hannon

NELLIE HANNON,
Executive Director

NH:llj

cc: Ignacio Dayrit, Project Coordinator

E

Emery Unified School District
4727 San Pablo Avenue
Emeryville, CA 94608
(510) 655-6936 • FAX (510) 655-3339

November 15, 1995

USEPA
OSWER
Outreach & Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20406

SUBJECT: USEPA GRANT
FOR BROWNFIELDS REDEVELOPMENT
CITY OF EMERYVILLE
COUNTY OF ALAMEDA, CALIFORNIA

To Whom It May Concern:

The Emery Unified School District supports the goals of the City of Emeryville to revitalize and reuse the numerous parcels of land which are vacant or substandard.

Emeryville has a real need for housing; housing that will attract families and children to our schools. To successfully develop housing in Emeryville, affordability is the key. Of course, the key issues are remediation of land, the uses of remediated parcels and the ability of the City to use "brownfield" standards would certainly help to achieve this.

Additionally, the business development of Emeryville creates job opportunities and internships for our students in a broad spectrum of employment. Our schools produce students who could be benefitted by the opportunities that environmental studies create.

Further, development is currently slowed for small developers whose resources may not be able to take on large projects. A mix of use and scales are

important to provide a variety of services to our residents. Development creates a stronger employment base as well as furthering Emeryville's history of school-business partnerships.

Sincerely,

Ronald W. Mooney
President
Board of Trustees
Emery Unified School District

/sto

cc: Mr. Ignacio Dayrit
City of Emeryville

Exhibit G

Letters of Support from Homeowner's Associations

EmeryBay Village

Pacific Park Plaza

November 16, 1995

U.S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, SW
Washington, D.C. 20460

Subject: Brownsfield Economic Redevelopment Initiative
City of Emeryville Proposal

We have reviewed the Project Overview, Budget and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U.S. E.P.A.'s Brownsfield Redevelopment Initiative.

Our organization represents 112 homeowners in the City of Emeryville and we have taken a proactive stance in all aspects of city government since our inception in 1981. We are a Home Owners Association, in the City of Emeryville, and we strive to enhance the quality of life and property values of all of our members as well as all citizens who are our neighbors. We regularly attend City Council and Planning Commission meetings. In addition, a number of our members are on standing committees within the City of Emeryville. These committees include Housing, Public Safety, Traffic and many others.

We support the City of Emeryville's proposal to develop "Brownsfields" into viable housing and commercial communities. We also intend to participate as a member of the community based Task Force in formulating mitigation actions and programs to improve the quality of life for all of our members and the citizens of the City of Emeryville.

Please call Jim Golden at 510 655 1729 if you have any questions.

For the Board of Directors

Jim Golden
President

cc: Ignacio Dayrit, Project Director

EMERY BAY VILLAGE
160 Emery Bay Drive • Emeryville CA 946(

Pacific Park
PLAZA
HOMEOWNERS ASSOCIATION

November 1, 1995

U.S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20460

Subject: Brownfields Economic Redevelopment Initiative
City of Emeryville Proposal

I have reviewed the formulation of the Project Overview, Budget, and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U.S. E.P.A.'s Brownfields Redevelopment Initiative on behalf of the Pacific Park Plaza Homeowners Association.

The Pacific Park Plaza Homeowners Association represents 583 residential condominium units in Emeryville.

We have worked with/in the City of Emeryville on various committees and commissions and a larger segment of our membership is actively involved in Emeryville politics.

We support the City of Emeryville's proposal to develop Brownfields into viable housing and commercial communities and also intend to participate as a member of the Community-based Task Force in formulating mitigation actions and programs to improve the quality of life for the Emeryville (and East Bay) community.

Please call Kris Owens at 510-457-8888 if you have any questions.

PACIFIC PARK PLAZA HOMEOWNERS ASSOCIATION

Kris Owens
President

cc: Ignacio Dayrit, Project Director

6363 Christie Avenue, Emeryville, CA 94608, Telephone (510) 428-2451, Fax (510) 428-0294

PD

Exhibit H

Letters of Support from Non-profit Housing Developers

East Bay Asian Local Development Corporation

Resources for Community Development

November 14, 1995

U.S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20460

Subject: Brownfields Economic Redevelopment Initiative
City of Emeryville Proposal

I have read the Project Overview and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U.S. E.P.A.'s Brownfields Redevelopment Initiative.

E B A L D C
East Bay Asian Local Development Corporation

The East Bay Asian Local Development Corporation is a non-profit community organization committed to the development of low income individuals and communities through its physical, human and economic asset development. EBALDC's program areas are: real estate development, economic development, property management, and community planning. EBALDC has developed almost 600 units of affordable housing ranging from single room occupancy hotels for formerly homeless to ownership housing for low income population. In addition to affordable housing, EBALDC developed more 3,000 sf of commercial space for start up business for low income individuals as well as for Bank of America. EBALDC's micro-business revolving loan program assists start up businesses and business expansion. In planning, EBALDC is working with residents and organizations in Chinatown and neighboring San Antonio District to develop a comprehensive neighborhood development plan.

I support the City of Emeryville's proposal to develop brownfieds into viable housing and commercial communities. It is critical that the City of Emeryville take responsibilities to develop housing affordable to very low and low income population as well as provide economic development opportunities for low income communities.

Please call Mi Yeong Lee @ (510) 287-5353 VM 649 if you have any questions.

Sincerely,

Mi Yeong Lee
Planner/Organizer

cc: Ignacio Dayrit, Project Manager

310 8th Street
Suite 309
Oakland,
California 94607
Telephone
(510) 287-5353
Fax (510) 763-4143

Exhibit I

Letter of Support from the
Alameda County Economic Development Advisory Board

BRIDGE
HOUSING CORPORATION

1 HAWTHORNE STREET, SUITE 400
SAN FRANCISCO, CA 94105-3901
TEL: (415) 989-1111
FAX: (415) 495-4898

November 14, 1995

U.S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20460

REC'D NOV 21 1995

Subject: Brownfields economic Redevelopment Initiative
City of Emeryville Proposal

I have reviewed the Project Overview, Budget, and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U.S. E.P.A.'s Brownfields Redevelopment Initiative.

Our organization is one of the largest non-profit housing developers in the country and in 1993 we were ranked by *Builder Magazine* as the 66th largest homebuilder in the nation. We are dedicated to the production of large volumes of high-quality homes. We now have nearly 6,000 units in service or currently under construction, and more than 1,000 units in various predevelopment stages. Over half of our units are affordable to low and very low income households, with virtually all of the remainder affordable to moderate income families. Our target group is primarily families earning $12,000 to $25,000 annually. In addition to volume and affordability, BRIDGE focuses on quality. We have received national and international recognition and have won awards for excellence, including: the 1990 International Habitat Award, three awards from Fannie Mae, and the Federal Design Achievement Award from the National Endowment for the Arts.

We have worked with many East Bay communities. In conjunction with the City of Emeryville and The Martin Group we developed EmeryBay II Apartments, a three acre 260-unit site with nearly half of those units available to low income families. The project is adjacent to the 424-unit, market-rate EmeryBay Club and Apartments, which is owned by The Martin Group, and the entire 684-unit is managed by a joint venture between BRIDGE and the Western National Group. The complete two-phased project shares a pool, spas, gardens and recreation areas. In addition to EmeryBay, we also developed Emery Villa Apartments - a one acre project on San Pablo Avenue with 50 residential units for independent seniors. The new building serves as a critical element in the City of Emeryville's program to revitalize the San Pablo corridor.

We are very proud of the work that we have accomplished in Emeryville and throughout the state. We are very happy to support the City of Emeryville's proposal to develop Brownfields into viable housing and commercial communities.

Sincerely,

Carol Galante
Vice President

Resource
fc
Communit
Developme

2131 University Avenu
Suite 2
Berkeley, CA 947
510 841-44
fax 510 548-35

November 13, 1995

U.S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street S.W.
Washington, DC 20460

Subject: Brownfields Economic Redevelopment Initiative
City of Emeryville Proposal

We have reviewed the Project Overview, Budget, and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U.S. E.P.A.'s Brownfields Redevelopment Initiative.

Resources for Community Development (RCD) is a non-profit housing development corporation founded by community members in 1984. RCD creates and preserves affordable housing in Alameda and Contra Costa Counties in the East San Francisco Bay area. To date, RCD has developed 207 units/rooms/beds at nine sites in the cities of Berkeley, Oakland, Emeryville, and Bay Point. RCD's projects serve homeless and low and very low income individuals and families and special needs groups, such as people with mental health and/or substance abuse disabilities, homeless veterans, homeless women with children, frail elderly and people with HIV/AIDS.

We have worked with the City of Emeryville on two projects. We have completed Triangle Court, twenty apartments for very low income families, and are currently developing the Bay Bridge Apartments, which will provide housing and supportive services for people with AIDS.

We believe in Emeryville's redevelopment potential and support the City of Emeryville's proposal to develop brownfields into viable housing and commercial communities.

Please call me at (510) 841-4410 if you have any questions.

Sincerely,

Dan Sawislak

Dan Sawislak
Interim Executive Director

E D A B

ECONOMIC DEVELOPMENT
ADVISORY BOARD
Serving Alameda County and the East Bay

October 26, 1995

U.S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20460

Attention: OSWER Outreach and Special Projects Staff (5101)

SUBJECT: Brownfields Economic Redevelopment Initiative

As Executive Director for Alameda County's Economic Development Advisory Board (EDAB), I would like to recommend that you approve the City of Emeryville's application for funding as a Brownfields Economic Redevelopment Initiative.

EDAB has been assisting businesses in location/retention issues, many of which relate to brown fields located in Alameda County. The plan submitted by the City of Emeryville is highly regarded as an effort to provide more assurance to businesses regarding certainty of the issues, including costs and time, associated with locating on contaminated property.

As an organization, EDAB looks forward to working with the City of Emeryville to make this plan a reality. In addition, EDAB has on staff a regulatory affairs coordinator who can provide additional assistance to the City regarding its efforts to have a streamlined permit process.

Approval of the City's application will provide them with funds to pursue this plan that can potentially be applicable to other areas of the County. Implementation of these ideas will also enhance the potential for job growth in the County and the surrounding region.

Thank you for the opportunity to comment on this application.

Very truly yours,

BRUCE L. KERN
Executive Director, EDAB

BK:MO:al

cc: John Flores, City Manager, City of Emeryville
Jim Copeland, Copeland, Hatfield, Lowery & Jacquez

ed/mo/plume/emerbrwn.doc

Exhibit J

Letter of Support from Business Groups

Emeryville Chamber of Commerce

Emeryville Industries Association

Commerce, Industry, The Arts & Entertainment

EMERYVILLE CHAMBER OF COMMERCE
2200 Powell St., Suite 207, Emeryville, CA 94608
510.652.5223 FAX 652.4223

November 8, 1995

U.S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20460

Subject: Brownfields Economic Redevelopment Initiative
City of Emeryville Proposal

On behalf of the Emeryville Chamber of Commerce, I have reviewed the Project Overview, Budget, and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U.S. E.P.A.'s Brownfields Redevelopment Initiative.

Our organization represents the Emeryville Chamber of Commerce whose mission is "to advance the commercial, industrial, cultural, civic, and educational life in Emeryville. The Chamber strives to facilitate the relationships between businesses, employees, City Government, and the residents, through networking, advocacy, and business support services."

Our organization is a business advocate organization which supports programs which enhance the quality of life for our residents and businesses.

We support the City of Emeryville's proposal to develop Brownfields into viable housing and commercial communities. We intend to participate in programs to improve the quality of life for Emeryville and the East Bay community.

Please call at (510) 652-5223 if you have any questions.

Best Regards,

Barbara Azad

Barbara Azad
Executive Director

REC'D NOV - 8 1995

cc: Ignacio Dayrit, Project Director

EMERYVILLE INDUSTRIES ASSOCIATION
P.O. BOX 8466 • EMERYVILLE, CA 94662 • (510) 658-3233

November 14, 1995

U. S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20460

Subject: Brownfields Economic Redevelopment
City of Emeryville Proposal

We have reviewed the Project Overview, Budget, and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U. S. E. P. A.'s Brownfields Redevelopment Initiative.

Our organization is Emeryville's oldest association of business owners and managers dating back to 1922. Various of our members own and/or operate local business enterprises and are well aware of the problems of developing and/or purchasing properties with a history of industrial use and have invested significant resources in obtaining permits to redevelop brownfields. Application of the Emeryville model will greatly reduce the risks and costs of remediation. Our organization supports, in principle, the "Mitigation Funding Mechanisms" and would welcome the opportunity to formulate the application of this mechanism.

We support the City of Emeryville's proposal to develop brownfields into viable housing and commercial communities. We also intend to participate as a member of the Community-based Task Force in formulating mitigation actions and programs to improve the quality of life for the Emeryville and East Bay community.

Sincerely,

President

cc: Ignacio Dayrit, Project Director, City of Emeryville

Exhibit K

Letters of Support from
Property Owners, Businesses and Developers

Andrew Getz

Chiron Corporation

Sybase

Wareham

Westinghouse

Andrew Getz
1355 Ocean Avenue
Emeryville, California 94608
telephone: (510) 652-4191
facsimile: (510) 652-9661

November 6, 1995

Regarding: Brownfields Economic
Redevelopment Initiative
City of Emeryville Proposal

Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, S.W.
Washington, D.C. 20460

Ladies and Gentlemen,

My family partnership has converted six old industrial properties into intensely used commercial centers containing offices, retailers, wholesalers and a medical clinic. We are developers helping to return this once-thriving industrial city in the heart of the San Francisco Bay Area to the vibrant commercial center it can become. We have never sold any property in Emeryville, hoping to pass our improved assets on to our children.

Like other developers in old, abandoned city centers, we encounter great fear of soil contamination from tenants, lenders and regulators. This fear dramatically retards the rebirth of our city. We have committed a substantial part of our life savings to redevelopment in Emeryville, and we, too, are fearful that high remediation costs will stifle future redevelopment.

I have reviewed this brownfields redevelopment initiative proposal, its overview, budget and "Responses to Evaluation Criteria" and I am a strong supporter. I intend to participate, as a member of a community-based task force, in the refinement of the Emeryville model and the institution of specific programs for its implementation.

Please approve this application and let us locals get on with the business of revitalizing our urban core. Please do not hesitate to call me if you have any questions.

Very truly yours,

Andrew Getz

CHIRON

November 6, 1995

U. S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20460

Re: **Brownfield's Economic Redevelopment Initiative**
City of Emeryville Proposal

We have reviewed the Project Overview, Budget, and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U.S. E.P.A.'s Brownfield Redevelopment Initiative.

Chiron Corporation applies biotechnology and other techniques of modern biology and chemistry to develop products intended to improve the quality of life by diagnosing, preventing and treating human disease. Since its founding in 1981, Chiron has been headquartered in Emeryville and has worked closely with the City of Emeryville to acquire and redevelop property to meet the growing needs of its operations. We are in the initial stages of a major expansion in Emeryville.

As a growing business, we are well aware of the problems of developing properties with a history of industrial use. We have invested significant resources in obtaining permits to redevelop brownfields. Application of the Emeryville model will greatly reduce the risks and costs of remediation. Our organization supports, in principle, the "Mitigating Funding Mechanisms" and would welcome the opportunity to formulate the application of this mechanism.

We support the City of Emeryville's proposal to develop brownfields into viable commercial developments, and would be interested in participating in the design and implement of this project.

Please call me at Chiron (510-601-2483) if I can be of further assistance.

Sincerely,

CHIRON CORPORATION

Jay E. Grover
Director
Environmental, Health and Safety

cc: Ignacio Dayrit, Project Director,
City of Emeryville Redevelopment Agency

CHIRON CORPORATION • 4560 Horton Street • Emeryville, CA • 94608-2916 • 510-655-8730 • Fax: 510-655-9910

c:\grover\brownfld.ltr

WAREHAM DEVELOPMENT

November 14, 1995

U.S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street SW
Washington, DC 20460

Re: Brownfields Economic Redevelopment Initiative
City of Emeryville Proposal

We have reviewed and participated in the formulation of the Project Overview, Budget and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U.S. E.P.A.'s Brownfields Redevelopment Initiative.

Wareham Development has developed approximately 3 million square feet of office, retail, laboratory and mixed used space and around the Emeryville corridor and have been associated with the City of Emeryville for the past 15 years in so doing.

As a developer, we are well aware of the problems of developing properties with a history of industrial use. We have invested significant resources in obtaining permits to redevelop brownfields. Application of the Emeryville model will greatly reduce the risks and costs of remediation. Our organization supports, in principle, the "Mitigation Funding Mechanisms" and would welcome the opportunity to formulate the application of this mechanism.

We support the City of Emeryville's proposal to develop brownfields into viable housing and commercial communities.

Sincerely yours,

Richard K. Robbins, for
WAREHAM DEVELOPMENT

RKR/cfg

1120 Nye Street · Suite 400 · San Rafael, California 94901 · 415 457-4964 · FAX 415 459-4605

SYBASE

November 3, 1995

RECD NOV - 7 1995

U.S. Environmental Protection Agency
OSWER Outreach and special Projects Staff (5101)
401 M Street, SW
Washington D.C. 20460

Subject: Brownfields Economic Redevelopment Initiative
City of Emeryville Proposal

I have reviewed the Project Overview, Budget, and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U.S. E.P.A.'s Brownfields Redevelopment Initiative. Sybase, which is the sixth largest independent software company in the world is the largest employer in the City of Emeryville. We have been here for over 10 years. During this period Sybase has remediated approximately 6 acres of contaminated property. Currently, Sybase has embarked on a major expansion of our headquarters which involves the redevelopment of 11.5 acres of under utilized industrial property.

As a business we are well aware of the problems of developing/purchasing properties with a history of industrial use. We have invested significant resources in obtaining permits to redevelop brownfields. Application of the Emeryville model will greatly reduce the risks and costs of remediation. Our organization supports, in principle, the "Mitigation Funding Mechanisms" and would welcome the opportunity to formulate the application of this mechanism.

We support and endorse the City of Emeryville's proposal to develop brownfields into viable housing and commercial communities. We also intend to participate as a member of the Community-based Task Force in formulating mitigation actions and programs to improve the quality of life for the Emeryville community.

Please call me at 510.922.4445 if you have any questions.

Very truly yours,

John P. Bruno
Director of Real Estate
SYBASE

cc: Ignacio Dayrit City of Emeryville

Sybase, Inc.
6475 Christie Avenue
Emeryville, CA 94608
(510) 922-3500

Westinghouse
Electric Corporation

11 Stanwix Street
Pittsburgh Pennsylvania 15222-1384
412/642-3285

November 13, 1995

U. S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20460

RE: Brownfields Economic Redevelopment Initiative
City of Emeryville Proposal

Gentlemen:

We have reviewed the Project Overview, Budget and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U. S. Environmental Protection Agency's Brownfields Redevelopment Initiative.

We are owners of property in Emeryville and are in the process of working with the City's Redevelopment Agency toward placing it into an economic use. We are currently completing studies for submittal to the Regional Water Quality Control Board and Environmental Protection Agency.

We understand that the City wishes to use grants from the Environmental Protection Agency Brownfields Economic Redevelopment Initiative to develop a "risk management" model for remediating and redeveloping brownfields as means of reducing regulatory barriers to redevelopment, uncertainty and cost. As a property owner, we are well aware of the problems of developing properties with a history of industrial use. Application of the Emeryville model will greatly reduce the risks and costs of remediation.

We support the City of Emeryville's proposal to constructively redevelop brownfields and, if requested, we would be pleased to participate in any discussions towards attainment of this goal.

Very truly yours,

R. K. Smith

Richard K. Smith, Manager
Environmental Engineering
and Project Management

cc: Ignacio Dayrit, Project Director

Exhibit L

Letter of Support from Banks

First Interstate Bank

Wells Fargo Bank

First Interstate Bank
of California
Emeryville Office
5801 Christine Ave., Emeryville, CA 94608
Box 8526, Emeryville, CA 94662
510 420-6610

November 14, 1995

U. S. Environmental Protection Agency
OSWER Outreach and Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20460

Subject: Brownfields Economic Redevelopment
City of Emeryville Proposal

We have reviewed the Project Overview, Budget, and Responses to Evaluation Criteria for the City of Emeryville's proposal for the U. S. E. P. A.'s Brownfields Redevelopment Initiative.

We have had a branch in Emeryville for nearly twenty years and are well aware of the problems of developing and/or purchasing properties with a history of industrial use. Our clients have invested significant resources in obtaining permits to redevelop brownfields and it would appear that application of the Emeryville model will greatly reduce the risks and costs of remediation. Our organization supports, in principle, the "Mitigation Funding Mechanisms" and would welcome the opportunity to formulate the application of this mechanism.

We support the City of Emeryville's proposal to develop brownfields into viable housing and commercial communities.

Sincerely,

David A. Woods,
Vice President & Manager

cc: Ignacio Dayrit, Project Director, City of Emeryville

Wells Fargo Bank
Real Estate Technical Services Group

RECD NOV - 7 1995

2835 Mitchell Drive, Suite 100 Walnut Creek, California 94598 510-942-4239 FAX 510-943-6950

November 6, 1995

USEPA
OSWER Outreach & Special Projects Staff (5101)
401 M Street, SW
Washington, DC 20406

SUBJECT: USEPA GRANT
FOR BROWNFIELDS REDEVELOPMENT
CITY OF EMERYVILLE
COUNTY OF ALAMEDA, CALIFORNIA

To Whom It May Concern:

Wells Fargo Bank (WFB) has reviewed the "Brownfields Economic Redevelopment Initiative for the City of Emeryville" which is being proposed to qualify for funding by USEAP. WFB continues to pledge support to the local agencies and the community in the development of practical and mutually acceptable policies and procedures which balance and promote environmental protection with planned and sustainable land use in general, and redevelopment of brownfields, in particular. As a major lender for meeting the financial needs of developers and redevelopment agencies in California, WFB looks forward to participating in the Task Force toward the intent of reaching the goals as outlined in both USEPA's initiative and the City of Emeryville's proposal, while being compatible with the interests of the Bank.

Sincerely,

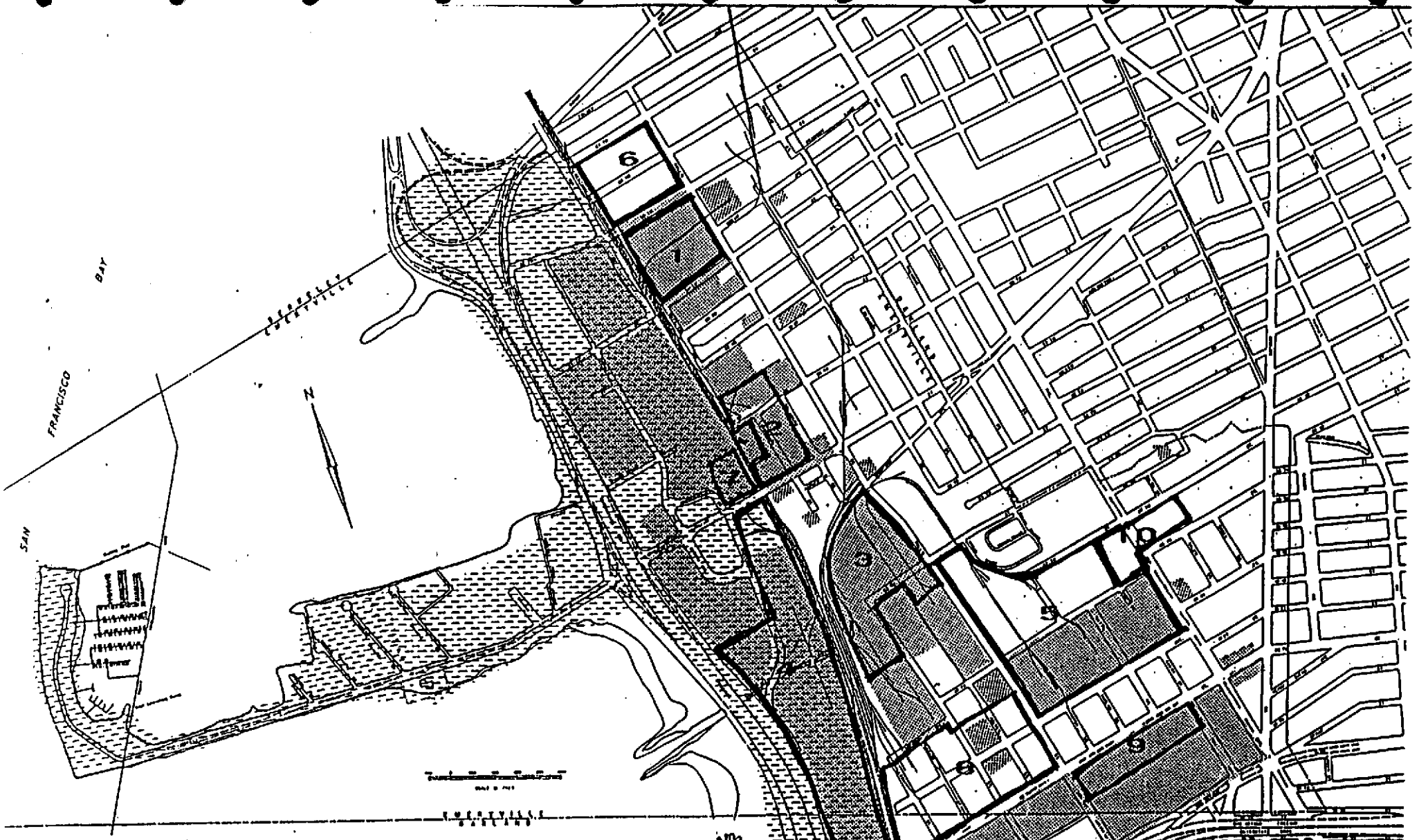
Thomas Stoflet

Thomas Stoflet
Assistant Chief,
Environmental Services

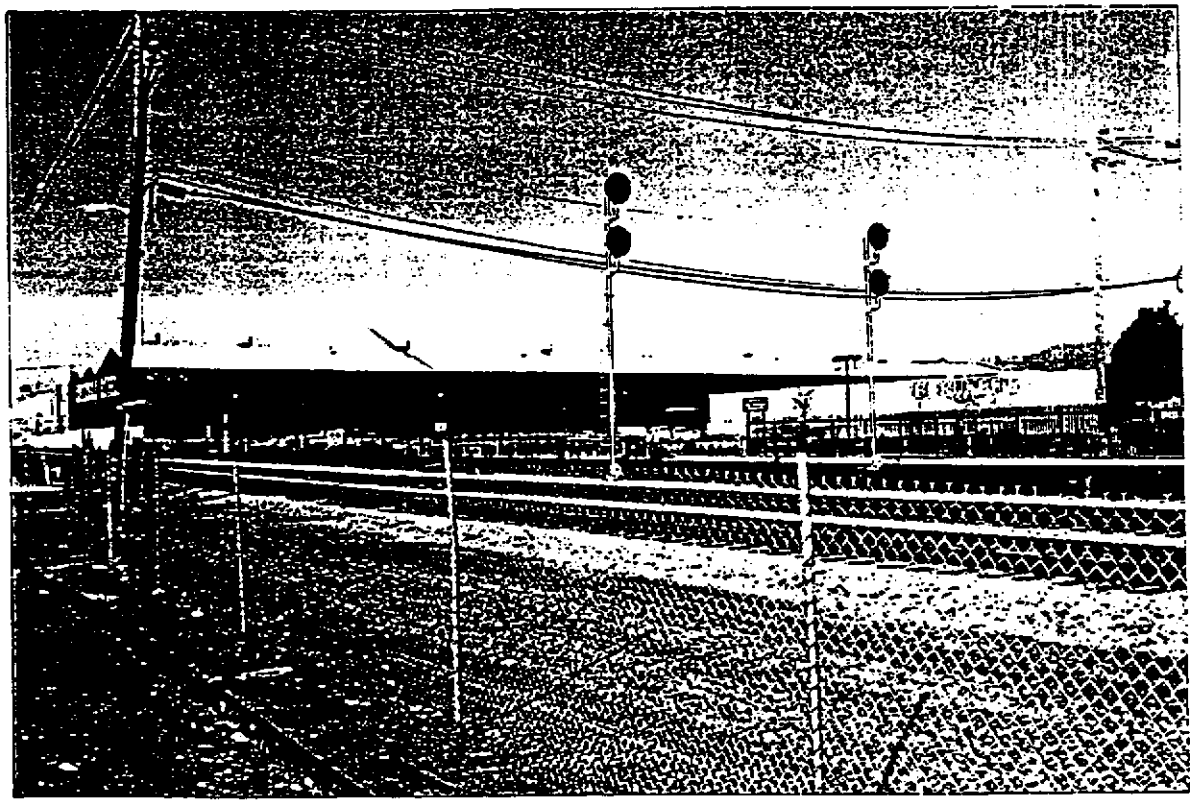
cc: Mr. Ignacio Dayrit ✓
City of Emeryville

Exhibit M

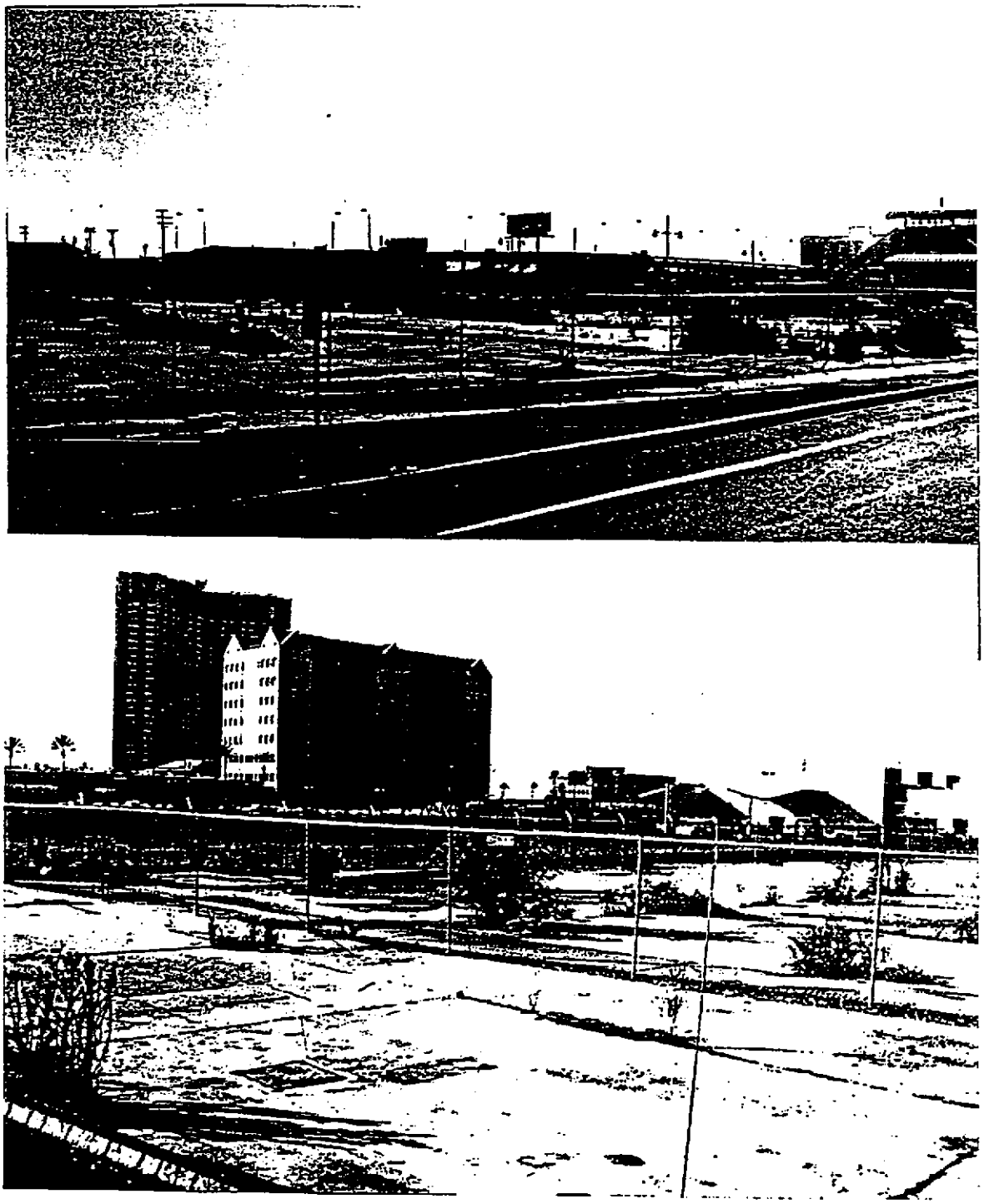
Proposed Brownfields Map



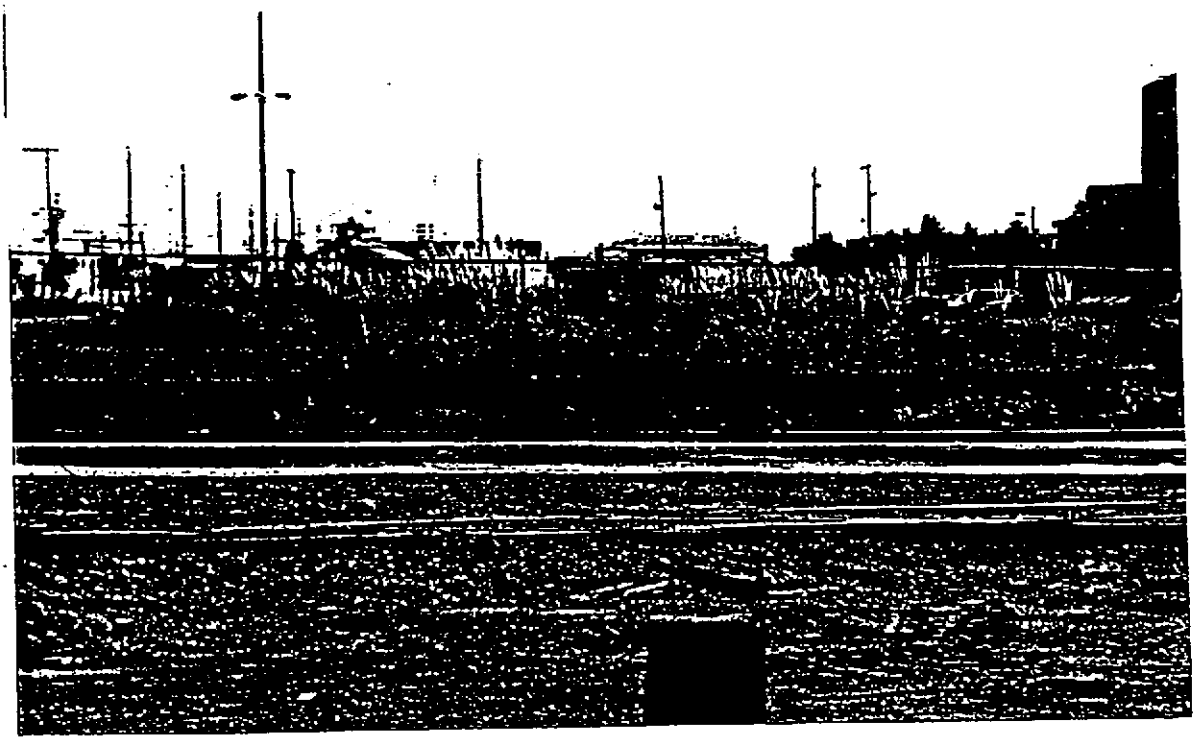
BROWNFIELD REDEVELOPMENT SITES



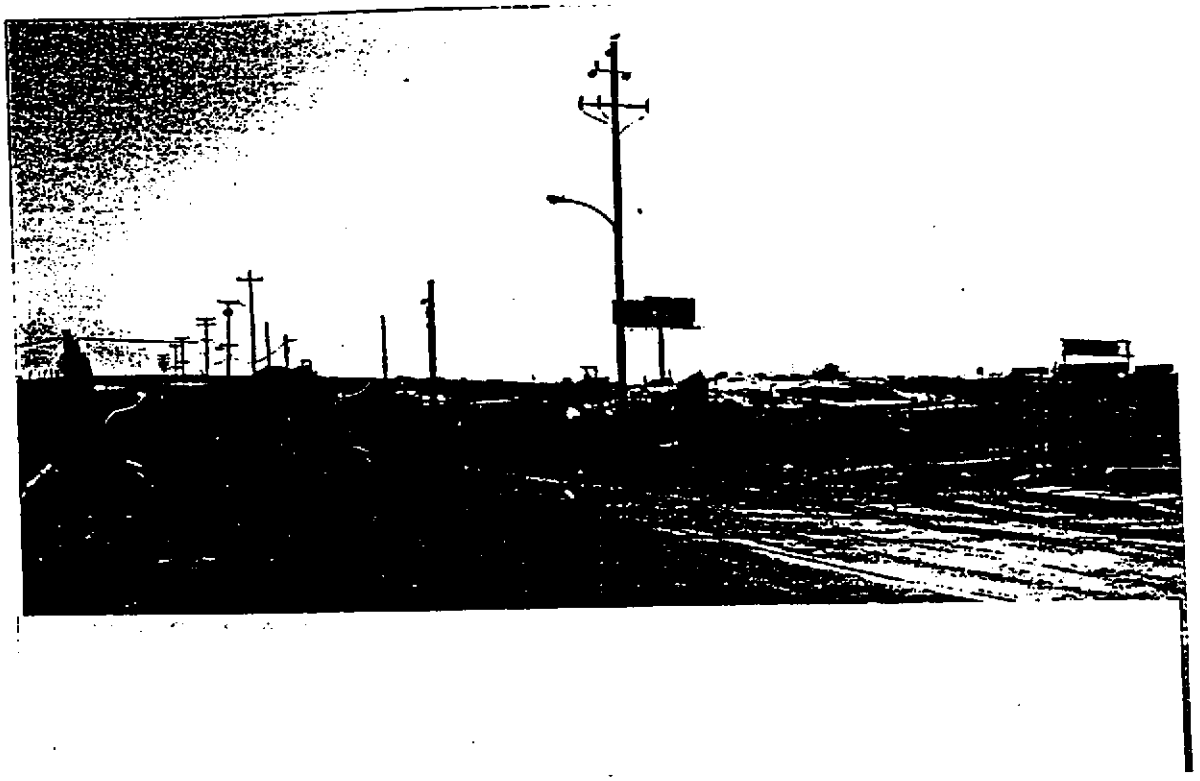
1 Breuner's/Ryerson site - 11 acres proposed for the expansion of Sybase Corporation. Contaminated with VOC.

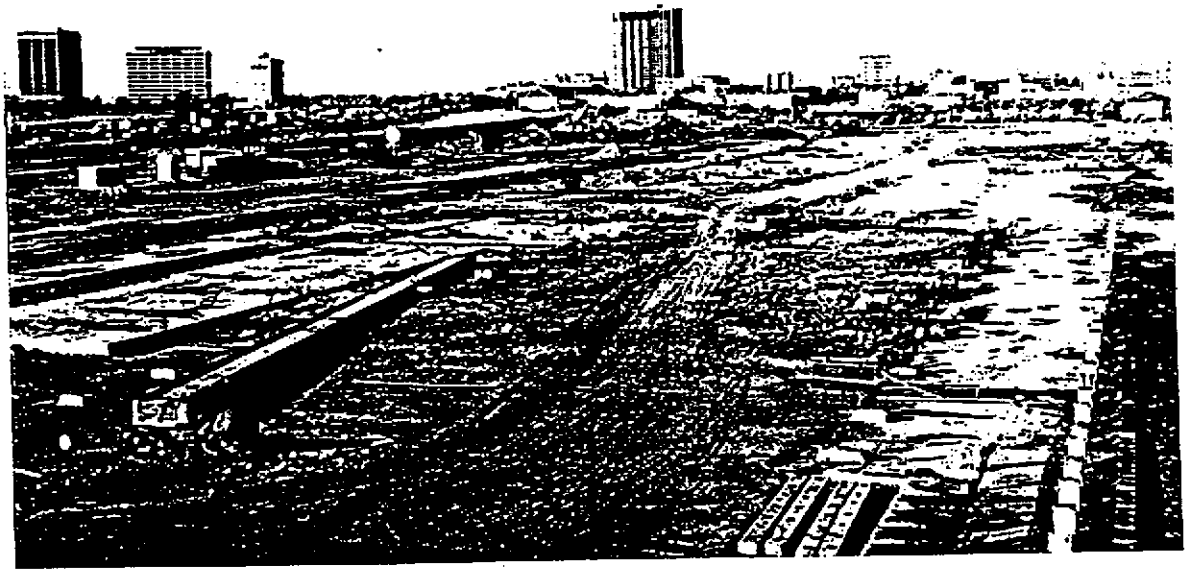


2 Westinghouse site - This site has been vacant for eight years. Buildings were demolished after the Loma Prieta Earthquake in 1989. Several regulatory agencies have oversight over portions of this property. It is adjacent to the City's Amtrak Station (background). 14 acres proposed for a transit village with mixed-use and residential. Contaminated with PCB and VOC.

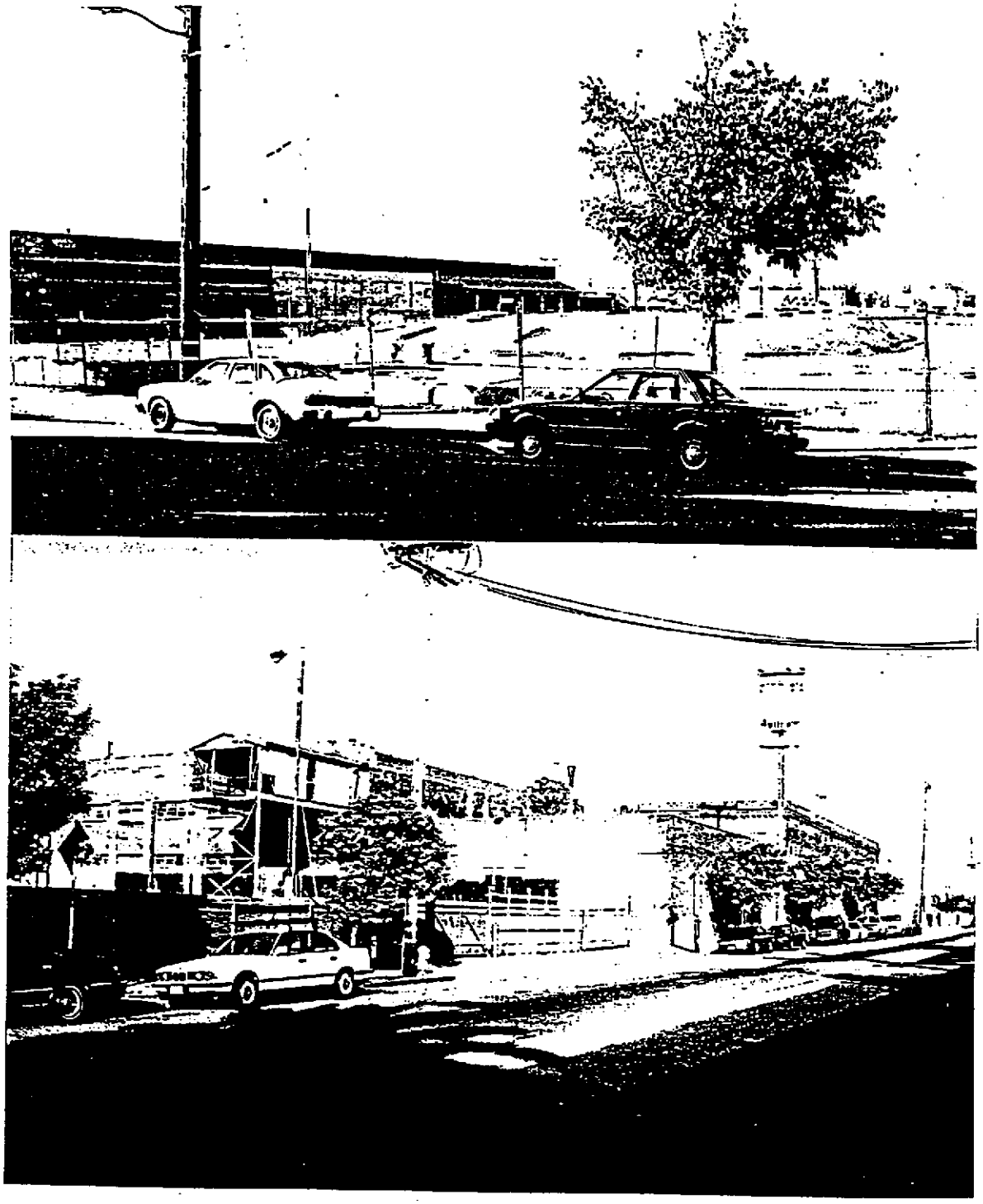


3 PG&E/BGR/Rifkin site - 25 acres former oil refinery and transformer storage proposed for the expansion of Chiron Corporation. Contaminated with PCB, VOC and arsenic. There are also several unreinforced masonry buildings on these sites. Estimated remediation cost - $32.4 million.





4 South Bayfront site - 50+ acres proposed for commercial, including a regional shopping center and hotel. Heavily contaminated from diesel, steel manufacturing and drum recycling. A number of property owners have litigated against each other. Subject of a Voluntary Cleanup Agreement with the Department of Toxic Substance Control.



5 Del Monte/AC Transit site - Over the past five years, the City has had many different proposals for this site, the latest being the construction of a hospital and medical offices. 25 acres.

6 Grove Valve and Corder sites (Not Pictured) - 20 acres of historically medium industrial property. 200 jobs will be lost when these sites are vacated.

7 Hotel site (Not Pictured) - 2 acres zoned for commercial or hotel use. This site is believed to be contaminated from upgradient sources.

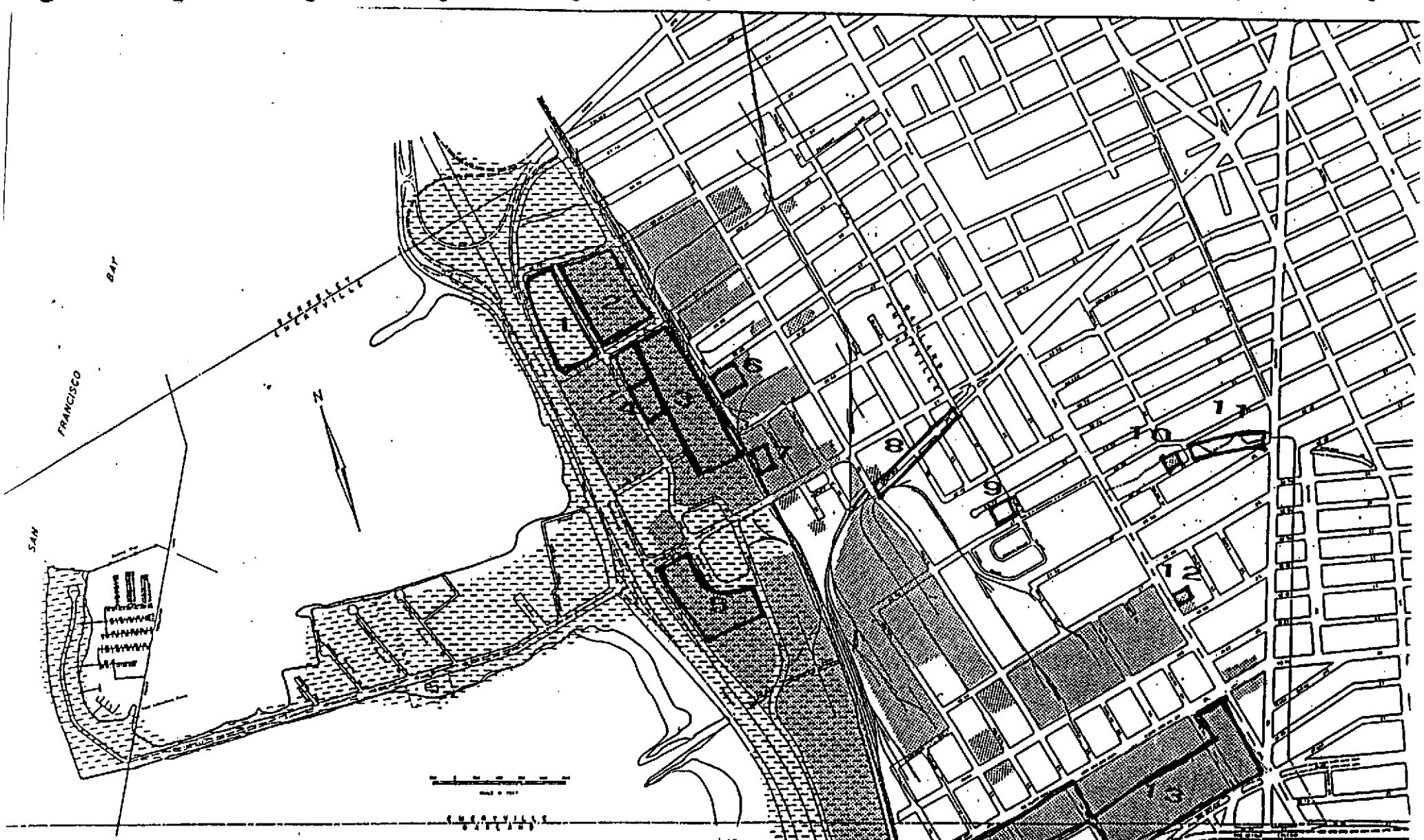
8 Park Avenue Overlay District (Not Pictured) - Covers thirty acres of small parcels with various ownerships. While few properties have been investigated, it is believed that there is significant chromium and VOC contamination in the groundwater. The Applicant hopes to retain the historic character of the buildings within the district.

9 East Baybridge Housing (Not Pictured) - 4 acres zoned for mixed-income housing.

10 Berkeley Farms (Not Pictured) - 3 acres of manufacturing. This site is a potential link to unifying East Emeryville to the rest of the City.

Exhibit N

Redeveloped Brownfields Map



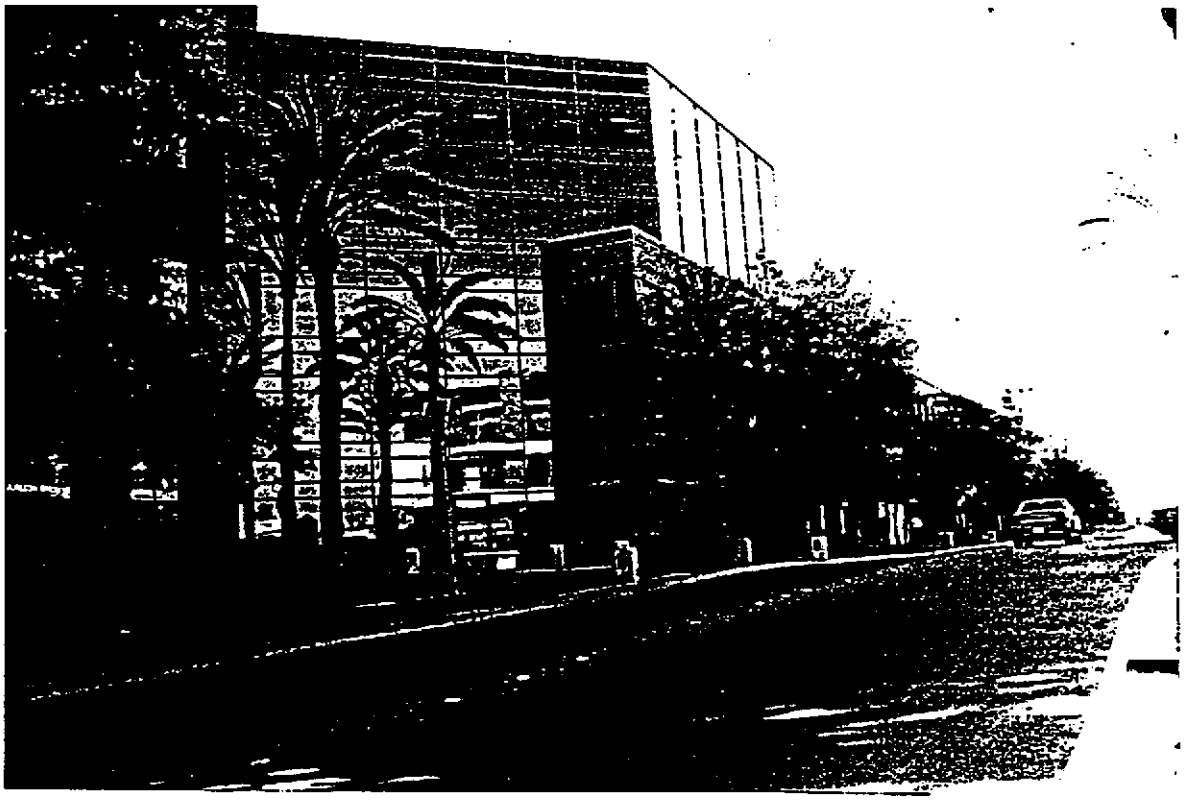
CITY OF EMERYVILLE , CALIFORNIA

KNOWN CONTAMINATED SITES

LANDFILL

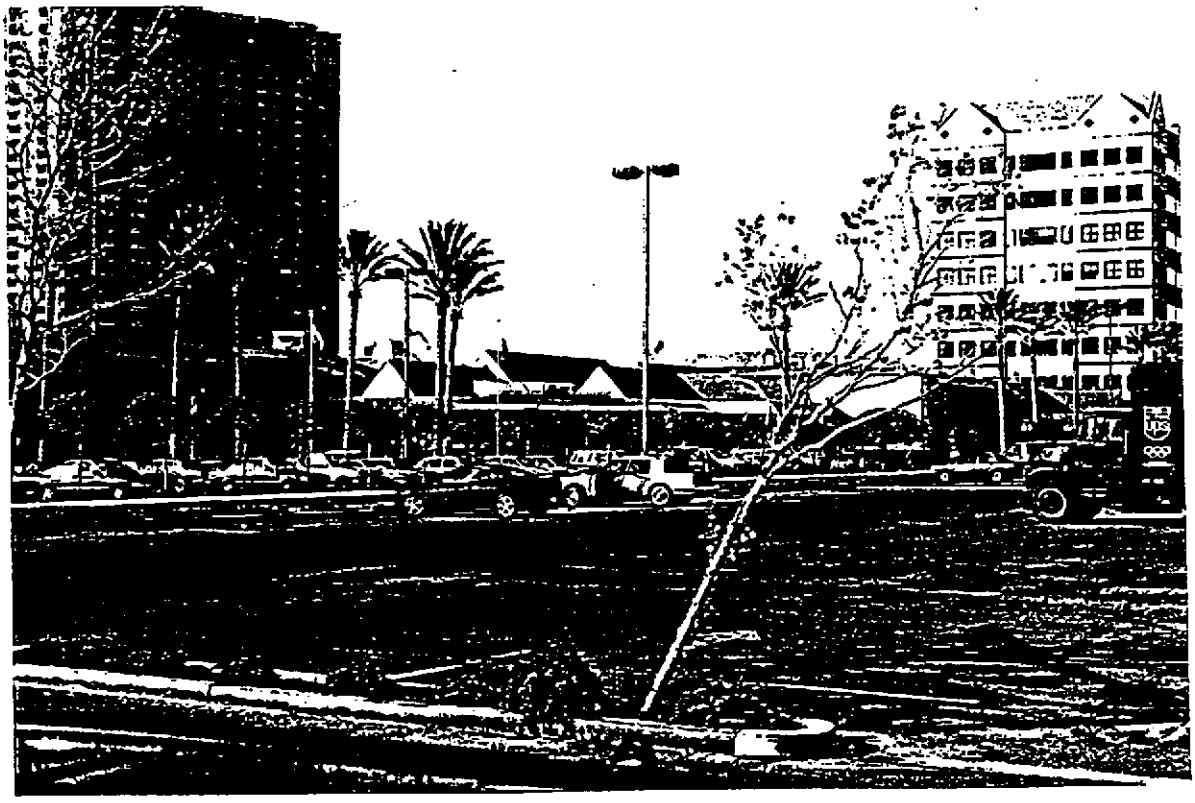
- REFER TO PHOTOS IN FOLLOWING PAGES

REDEVELOPED BROWNFIELDS



1 Bay Center Office Complex - Approximately 325,000 square feet of office. Currently offices of Chiron and Sybase. 1987.

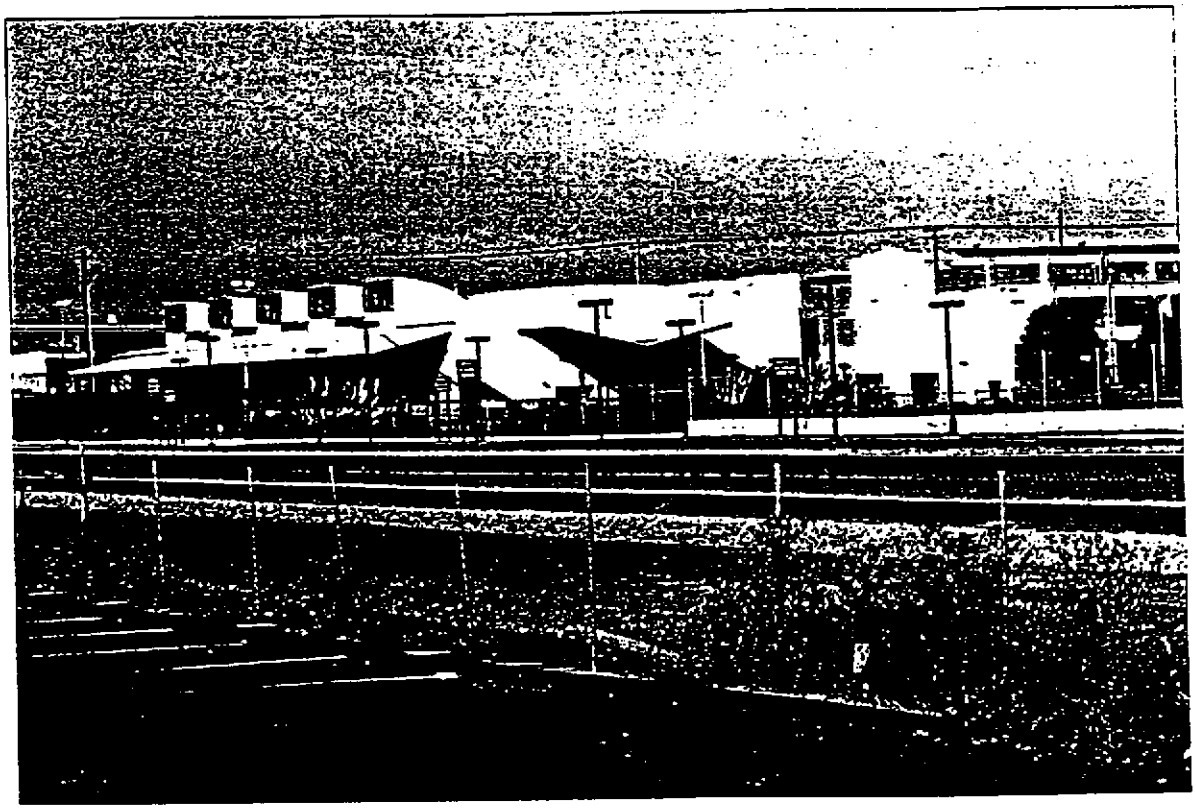
2 EmeryBay Apartments - Phase I (1987) composed of 420 market rate units. Phase II (1992) composed of 260 units 40% of which are affordable to families with 50-80% of median income. Previous uses on the site included an asphalt plant, slaughterhouse and manufacutring facility. This was a joint development between the Agency, the Martin Group and Bridge Housing Corporation.



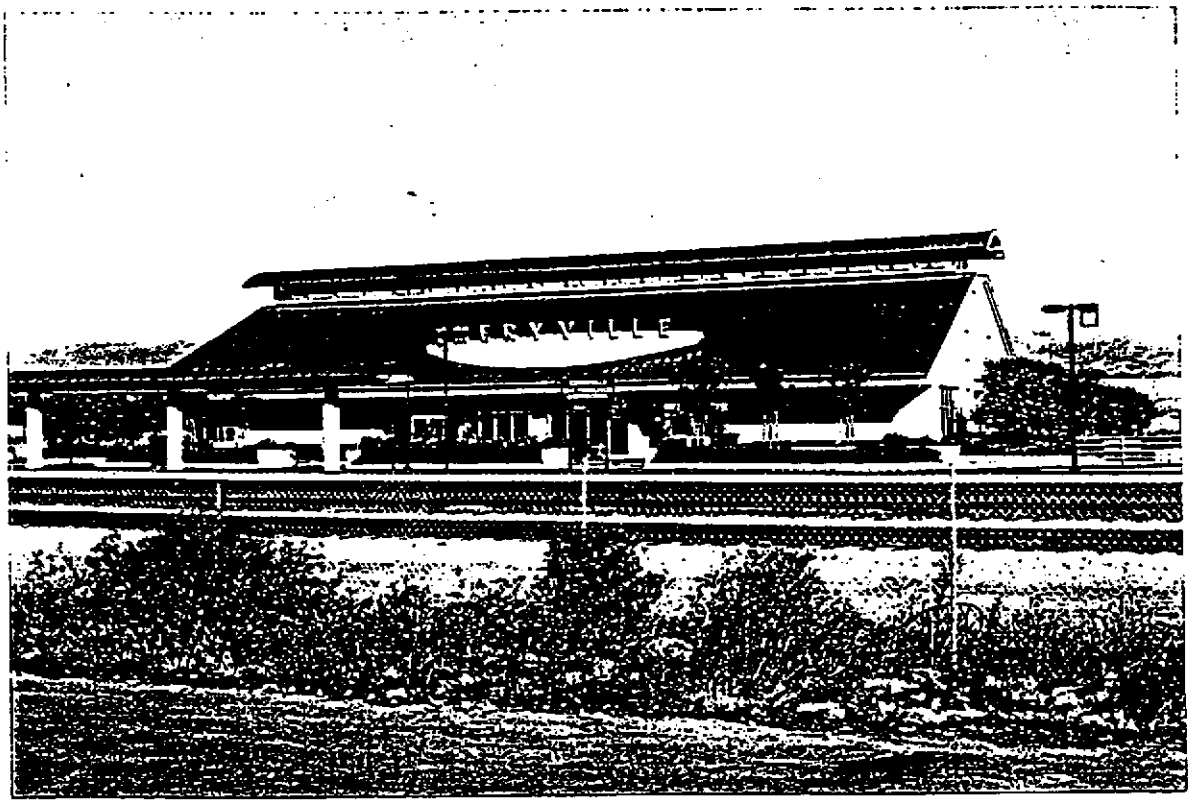
3 EmeryBay Public Market - 262,000 square foot office, retail, and entertainment complex. 1988.

4 Christie Avenue Park - Urban park constructed on a former chemical storage warehouse. 1994.

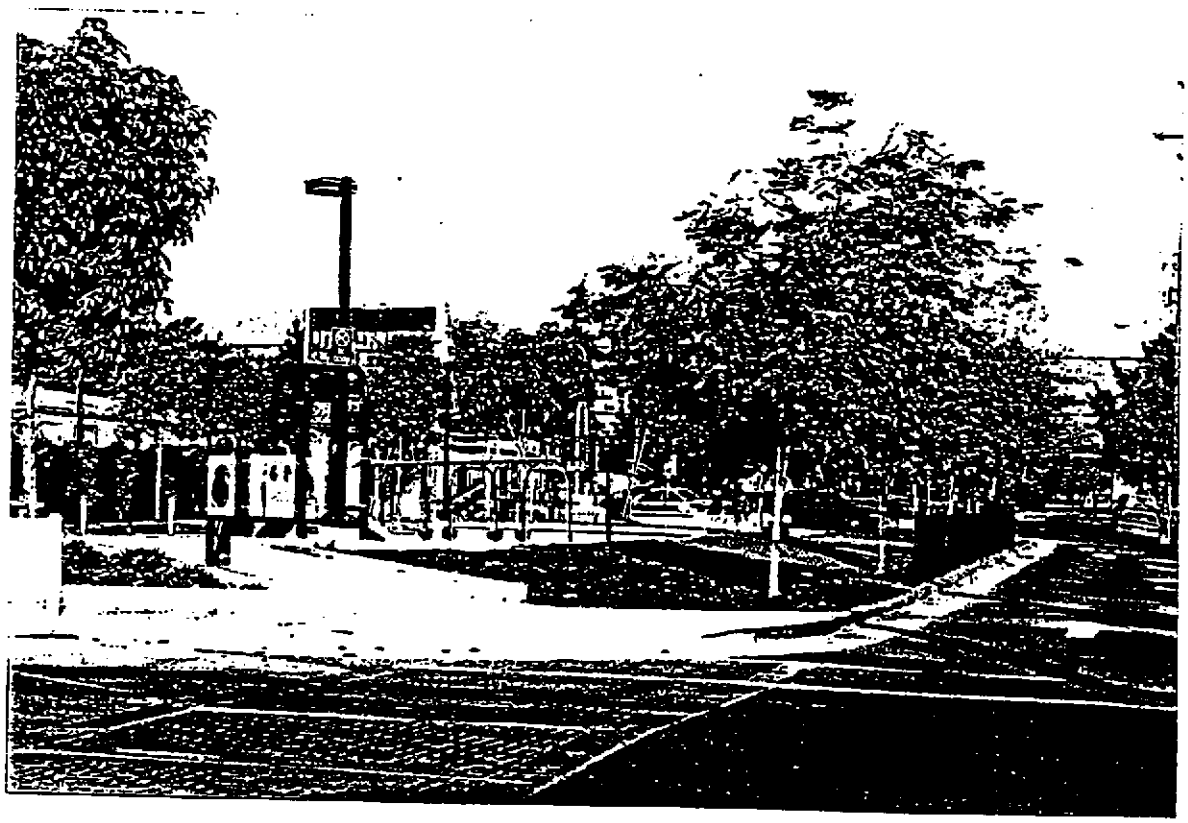
5 Powell Street Plaza - 180,000 square foot retail center constructed on a former truck stop. 1987.



6 Post Office - Constructed on a former tank farm. 1994.



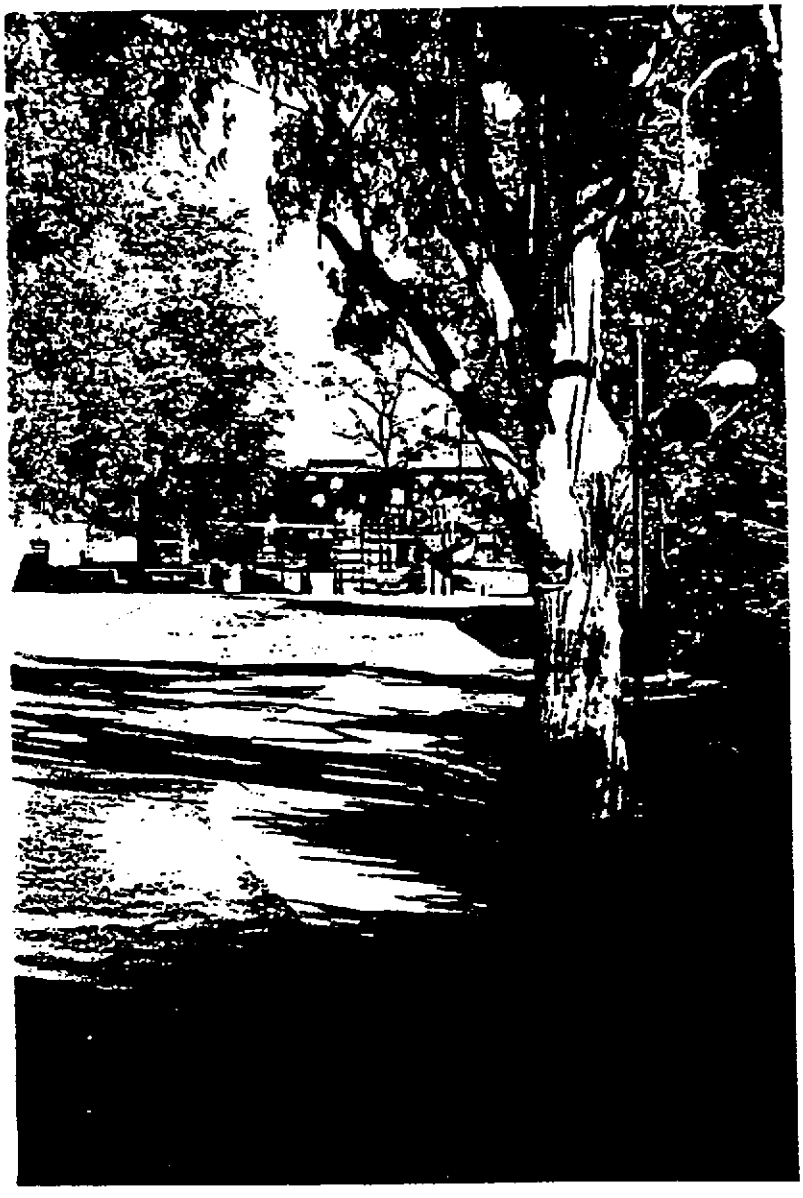
7 Amtrak Station - Constructed on a former tank farm. The Regional Board applied a risk-based model in allowing the redevelopment of this property. This was a joint venture among the Agency, Amtrak and Wareham. 1993.



8 Stanford Avenue Park - Constructed on a former rail spur. 1991.

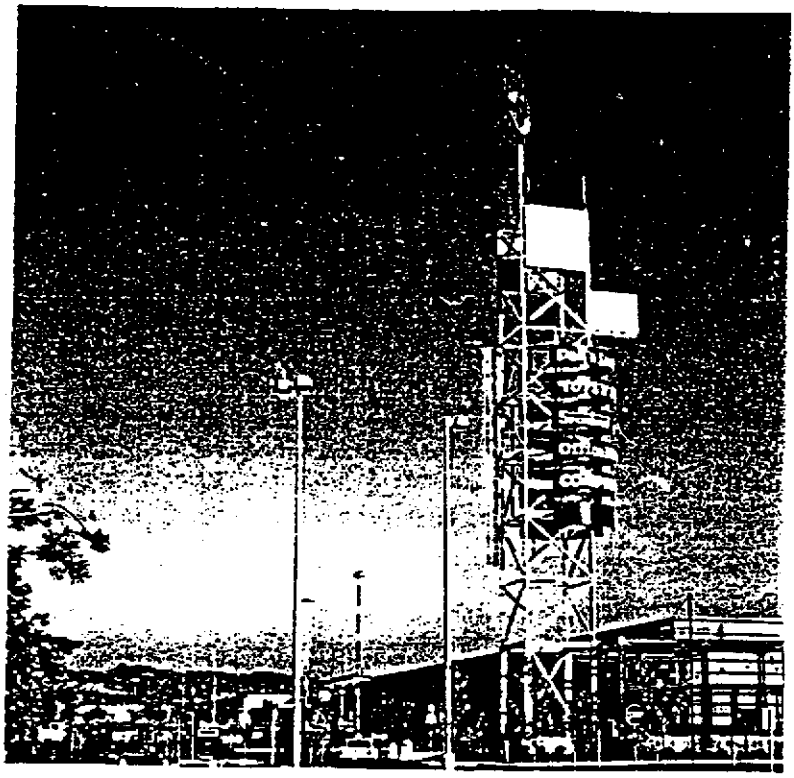
9 Child Development Center - Constructed on a former truck parking lot. 1990.

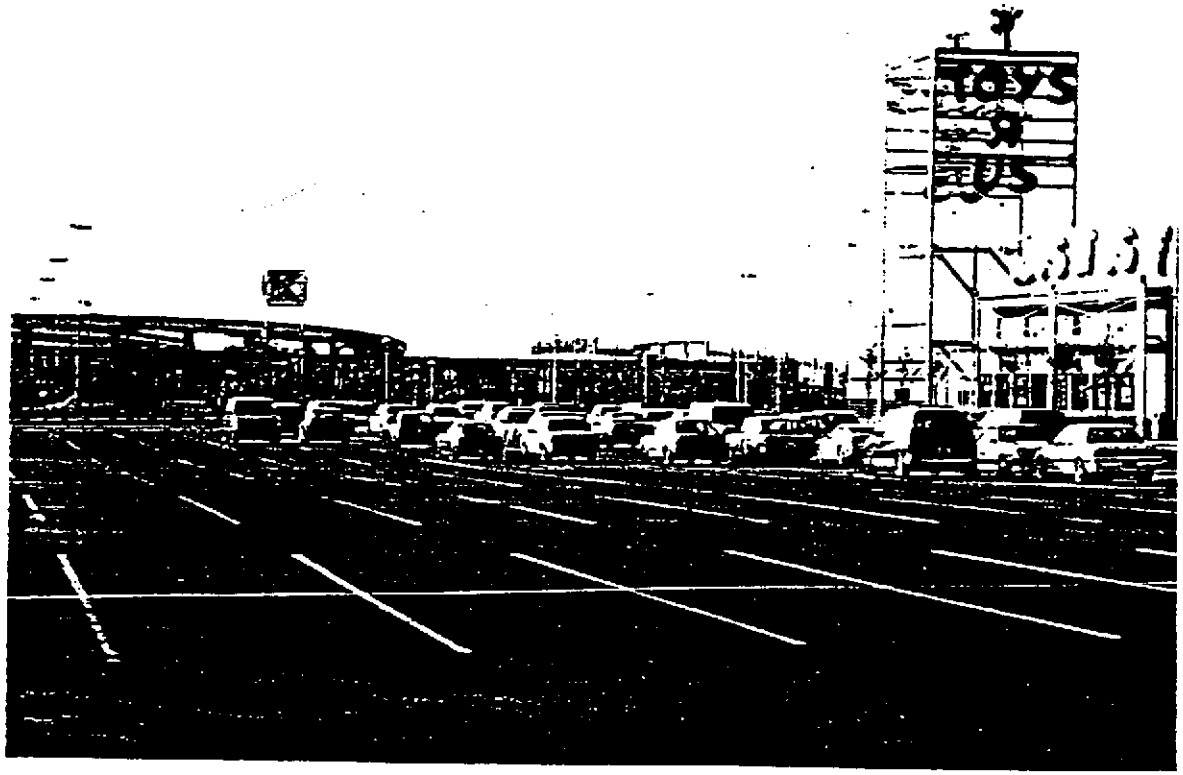
10 In-Fill Housing Project - A two-unit condominium project built along contaminated flood control channel. 1993.



11 Temescal Creek Park - Built along flood control channel. 1992.

12 Emery Villa - 50-unit senior housing facility built on former gasoline station.





13 East Baybridge - 430.000 square foot big-box retail center built on former truck depot and rail yards. The Agency assisted in financing the construction of infrastructure and remediating contamination from a gasoline station. 1994-1995.