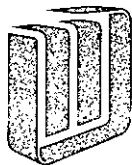


JAN 14 1992



**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

EXECUTIVE SECRETARY

December 17, 1991

To: Board of Directors (Engineering & Operations Committee--Action)  
(Water Problems Committee--Action)

From: General Manager

Subject: Santa Monica Groundwater Treatment Project Groundwater Recovery  
Program Agreement

Report

The City of Santa Monica (Santa Monica) has requested financial assistance for the Santa Monica Groundwater Treatment Project (Project) under the principles of Metropolitan's Groundwater Recovery Program. The Project, which will be located in the Santa Monica Groundwater Basin, will increase groundwater production by treating groundwater containing Trichloroethylene (TCE) and other volatile organic compounds (VOCs) in excess of drinking water standards and then serving that treated water to meet Santa Monica's municipal needs. That water would not otherwise be extracted and used. Attachment 1 describes Project features. The Project includes the construction of that portion of an expansion of Santa Monica's existing water softening plant dealing with the removal of elevated levels of VOCs and the replacement of one existing well.

Under a proposed agreement, Metropolitan's financial contribution to the Project would be adjusted annually to equal those Project costs exceeding Metropolitan's water rate, subject to a maximum program contribution set by your Board (currently \$250 per acre-foot) which may be increased in the future. The agreement term would be 20 years.

Santa Monica's financial incentive would be provided as a water sales credit through a yield-purchase arrangement similar to that used for the Local Projects Program. To deal with the inherent uncertainty associated with developing a groundwater project, the agreement will include financial provisions for the final project to operate at plus or minus 20 percent of project capacity. Hence, the maximum amount of water purchased by Metropolitan would be 2,160 acre-foot per year (AFY) which is 120 percent of project capacity (1,800 AFY).

Metropolitan's contribution rate is estimated as \$94 per acre-foot for the first fiscal year of operation (1991-92). Metropolitan would recalculate this contribution rate annually based on documented Project cost data and changes in the noninterruptible water rate. The contribution rate is expected to diminish in the future as Metropolitan's water rates increase. Ultimately, the contribution becomes zero when the Project water cost equals Metropolitan's treated noninterruptible water rate. Attachment 2 describes those Project costs which will be used in calculating the contribution rate. Attachment 3 is a forecast of Metropolitan's annual contributions to this Project.

Credits for the Groundwater Recovery Program were not included in this year's water revenue projections because projects were not anticipated to be operational this early. However, the expeditious Santa Monica Groundwater Treatment Project will require approximately \$85,000 during the latter part of this fiscal year resulting in an increased use of water rate stabilization funds. In the future, only budgeted projects will be submitted for your approval.

Santa Monica, as the lead agency for this project, has determined that this effort is categorically exempt (see Attachment 4) from the provisions of the California Environmental Quality Act, because the action consists of minor alterations of an existing water treatment facility and the replacement of one unused well in the contaminated area, involving negligible expansion of capacity.

#### Board Committee Assignments

This letter was referred for action to:

The Water Problems Committee pursuant to Sections 2481(d)(i) of Metropolitan's Administrative Code granting it authority regarding policies dealing with the sale and delivery of water for various uses, and underground storage of water and the use thereof.

The Engineering and Operations Committee pursuant to Section 2431(c) of Metropolitan's Administrative Code granting it authority regarding facilities for the production, exchange, sale, storage and treatment of water.

Recommendation

**WATER PROBLEMS AND ENGINEERING & OPERATIONS COMMITTEES FOR ACTION.**

It is recommended that the General Manager be authorized to execute an agreement with the City of Santa Monica to implement the Groundwater Treatment Project, said agreement to be consistent with the major terms and conditions in this letter and in form approved by the General Counsel.

  
Carl Boronkay

MS:vb

Attachments

## Attachment 1

## Exhibit A

City of Santa Monica Groundwater Utilization Project

(December 17, 1991)

Overview

The City of Santa Monica extracts groundwater from two groundwater basins: the Charnock Subbasin and the Santa Monica Subbasin. The Groundwater Utilization Project would deliver 1,800 acre-feet of water per year (AFY) from the Santa Monica Subbasin, which is currently contaminated with elevated levels of volatile organic compounds (VOCs). This water would not otherwise be extracted and used. The contaminated groundwater from the Santa Monica Subbasin would be blended with groundwater from the Charnock Subbasin, and pumped to the Arcadia Water Treatment Plant (WTP). The treated water would then be distributed to consumers within the City of Santa Monica Municipal Water System.

Project Facilities

The Groundwater Utilization Project has two distinct elements. One element is a new groundwater production facility to replace currently unused Well SM-2. The other element is additional treatment facilities to remove VOCs. The facilities were implemented in multiple elements. Initially, the replacement well was drilled. Pilot tests were performed to establish key design parameters for the VOC removal facilities. The following is a brief description of the facilities to be constructed.

Wellhead Facilities

Well SM-2 experienced casing failures and was replaced with a redrilled well nearby. Well SM-7 would be utilized with minor hydraulic improvements. The installed wellhead facilities are shown in Table A-1.

Table A-1			
Well	Capacity, GPM	TDH, FT	Power, hp
SM-2A	400	N/A	75
SM-7	600	---	--

### Pipelines

No new pipelines or pipeline improvements are required for this project. Groundwater from the Charnock and Santa Monica Subbasins will merge before the Arcadia WTP in an existing 24-inch pipeline. The increased flow in the existing pipeline will increase the pumping head requirements, which may necessitate some pipeline improvements in the future.

### Treatment Facilities

The major treatment process units at Santa Monica's existing Arcadia WTP (located in the City of Los Angeles) consist of an aeration basin, contact basin and ion exchange beds. The current design flow rate at the WTP is 4,500 GPM. The WTP expansion will consist of additional softening capacity and VOC removal facilities. The design flow rate for the WTP expansion is 10,000 GPM. The softening facilities were designed for a capacity of only 7,500 GPM because the treated and untreated water will be blended prior to VOC removal. The softening facilities are not eligible for funding under the Groundwater Recovery Program.

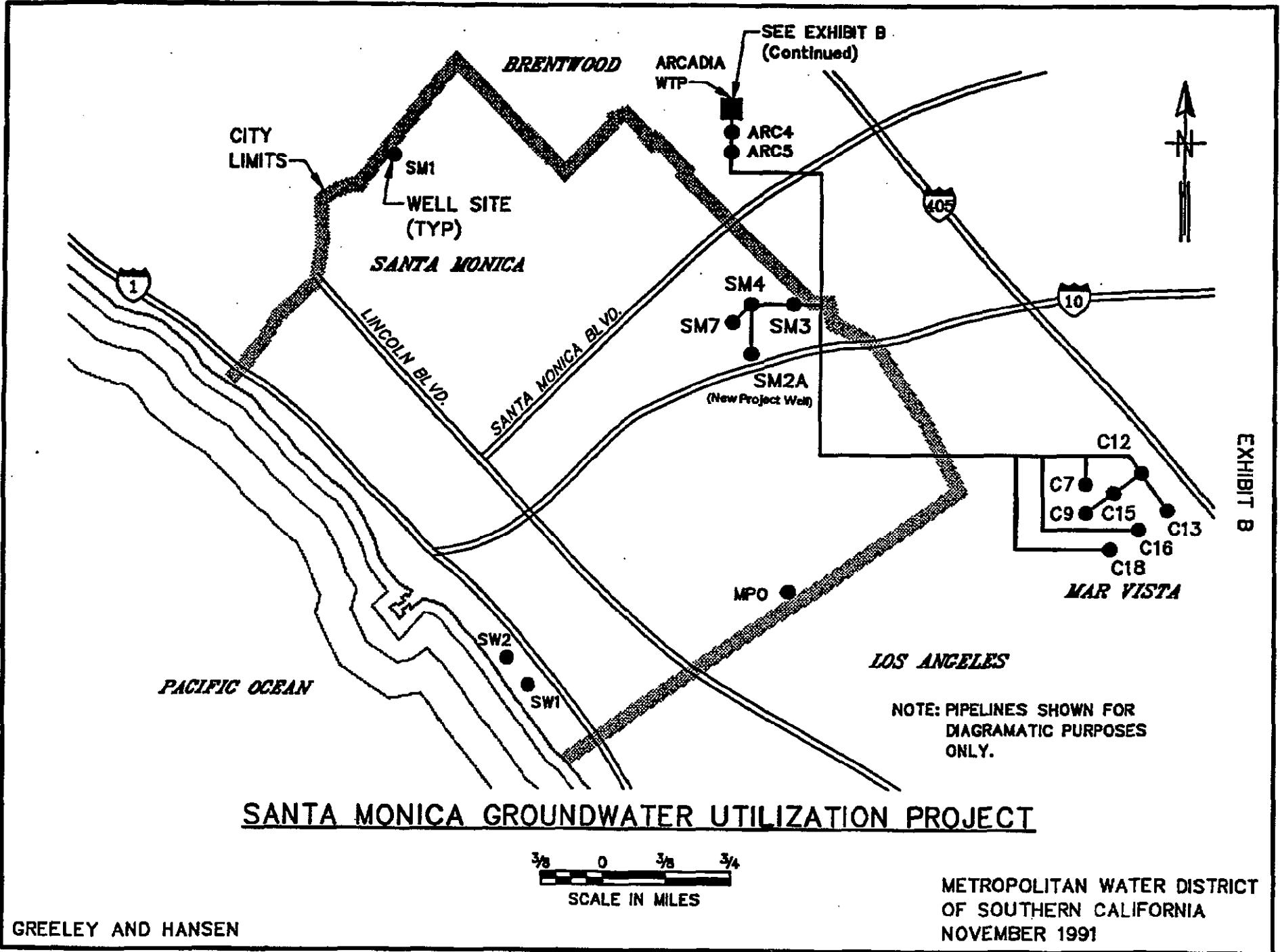
Trichloroethylene (TCE) is the primary VOC of concern. Expansion of the WTP included modifying the existing storage reservoir to accommodate surface aeration and off-gas treatment. Approximately 50 percent of the 5 MG storage reservoir are divided into 15 zones to accommodate three 15 hp and twelve 10 hp surface aerators designed to achieve 90 percent TCE removal. An off-gas air flow rate of 23,000 cfm will deliver the TCE laden air to a gas phase activated carbon adsorption system. Hydraulic improvements to the WTP included modifying the existing 2,000 GPM pump bowls to achieve 2,500 GPM, along with upgrading the pump motor sizes from 10 HP to 15 HP. The loss of water through the treatment process is estimated at five percent.

### Project Yield

The recovered groundwater would be employed to reduce the quantity of water purchased annually from MWD and would be distributed to consumers within the City of Santa Monica municipal water system. The City's total annual demand is approximately 18,000 AFY. The estimated safe yield of the Charnock Subbasin is 4,420 AFY, and for the Santa Monica Subbasin 4,240 AFY. This brings the total

groundwater production to 8,660 AFY, which is approximately 48 percent of the City's total annual demand. The average groundwater production for the Santa Monica Subbasin for the period from 1986 through 1990 has been approximately 1,200 AFY. This project will allow the City of Santa Monica to pump approximately 73 percent of Santa Monica's basin yield of 4,240 AF after losses.

MHSEXH-A



### SANTA MONICA GROUNDWATER UTILIZATION PROJECT

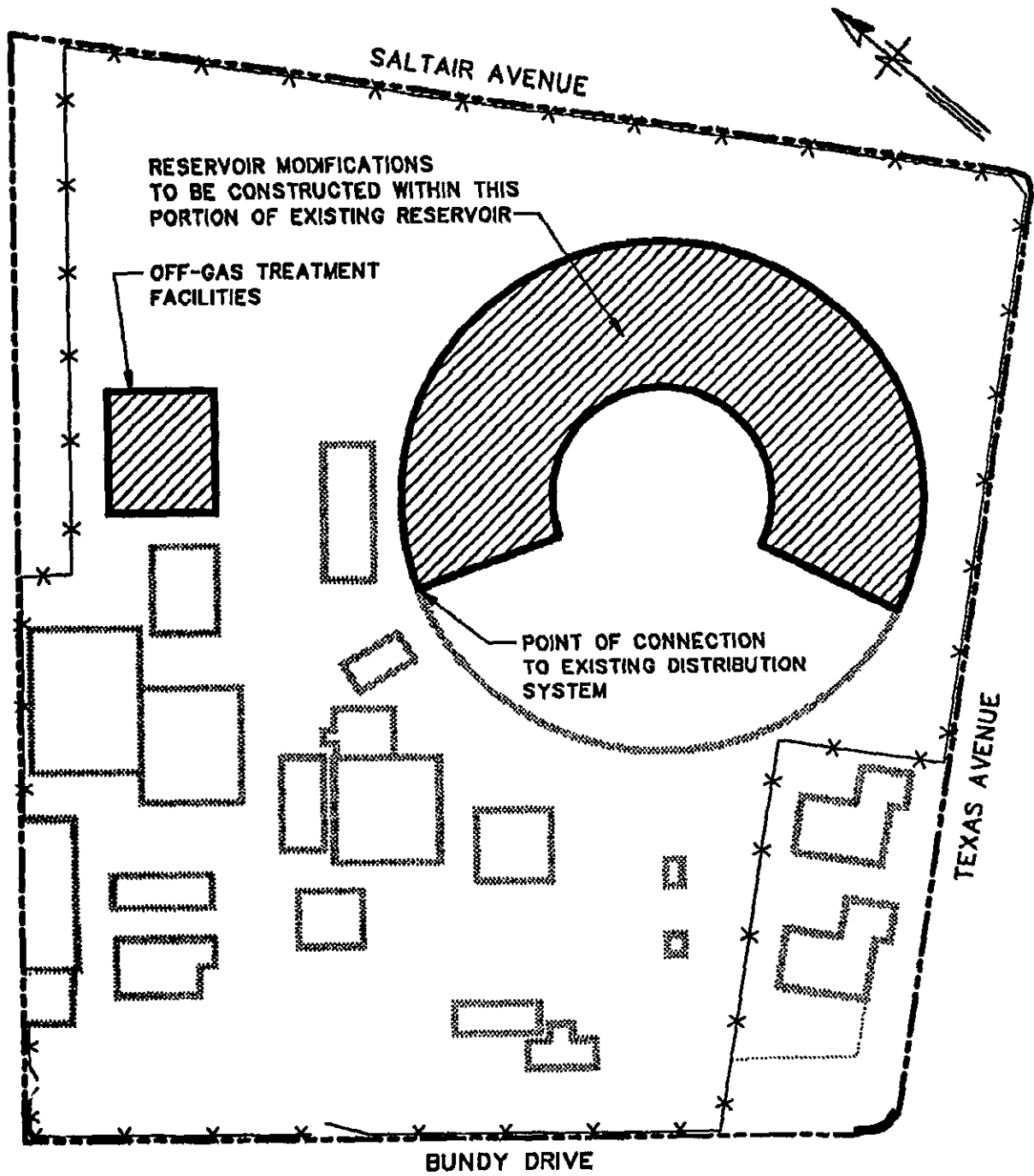
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA  
NOVEMBER 1991

GREELEY AND HANSEN

EXHIBIT B

39406

EXHIBIT B (Continued)



# TREATMENT PLANT SITE PLAN

LEGEND:

NO SCALE

\*-\* FENCE

□ EXISTING FACILITIES

▨ NEW OR MODIFIED FACILITIES

METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA  
NOVEMBER 1991

GREELEY AND HANSEN

FILENAME: 7802-05 12/12/1991 (9:7)



## Attachment 2

Project Cost

Project cost shall mean a close approximation of the actual costs to produce an acre-foot of water by the Project in a fiscal year and shall be computed as the sum of two components: Annualized Capital Component and Operation and Maintenance Component. Costs for Santa Monica's distribution system and costs of preexisting water systems shall not be included in Project cost. The preliminary estimate of Project cost for fiscal year 1991-92 is as follows:

Annualized Capital Component	\$159 per acre-foot
Operation and Maintenance Component	<u>+\$196 per acre-foot</u>
Project Cost	\$355 per acre-foot

This estimate will be revised based on actual costs incurred after Project operation begins. The following information identifies those cost items eligible for consideration under Metropolitan's financial assistance agreement.

A. Cost Factors Constituting Annualized Capital Component

1. The following cost factors shall constitute the Annualized Capital Component:
  - a. Consultant services for:
    - i. Design.
    - ii. Supervision of construction, not to exceed three percent of construction costs.
  - b. Construction costs.
  - c. Permit costs.
  - d. System start-up costs through the end of the construction phase.

B. Cost Factors Constituting Operation and Maintenance Component

1. The following factors shall constitute the Operation and Maintenance Component:

- a. Consultant Services for Project operation and maintenance.
- b. Santa Monica's staff labor including documented overhead for operating the plant. Only labor specifically applied to the Project shall be considered.
- c. Chemicals and supplies for Project operation and maintenance.
- d. Electrical energy for:
  - i. Supply wells.
  - ii. Plant lighting and general electric needs.
  - iii. Booster Pump discharge up to reasonable distribution system pressure.
- e. Contractor services and supplies for Project operation, maintenance and repair to maintain reliable system operation and achieve regulatory compliance.
- f. Water quality sampling and analysis for the Project (excludes distribution system).
- g. Replacement parts.

mhssanta

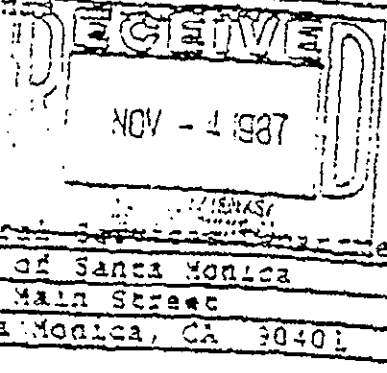
## Attachment 3

SANTA MONICA GROUNDWATER TREATMENT PROJECT  
PROJECTION OF MWD CONTRIBUTION

Fiscal Year	MWD Contribution	
	Per Acre-Foot (\$/AF)	Annual Total * (\$)
1991-92	94	84,600
1992-93	43	77,400
1993-94	0	0
1994-95	0	0
1995-96	0	0
1996-97	0	0
1997-98	0	0
1998-99	0	0
1999-00	0	0
2000-01	0	0
2001-02	0	0
2002-03	0	0
2003-04	0	0
2004-05	0	0
2005-06	0	0
2006-07	0	0
2007-08	0	0
2008-09	0	0
2009-10	0	0
2010-11	0	0

\* Annual Total computed as product of unit contribution times project capacity of 1,800 AFY, except in the first year when project operation is expected to be about 900 AF.

City Hall, 1585 Main Street, Santa Monica, California



NOTICE OF EXEMPTION

TO: State Clearinghouse
1400 Tenth Street, Room 122
Sacramento, CA 95814

FROM: General Services Department
City of Santa Monica
1585 Main Street
Santa Monica, CA 90401

X County Clerk
County of Los Angeles
111 N. Hill Street, Room 106
Los Angeles, CA 90012

Water treatment plant improvement project
PROJECT TITLE

1228 S. Bundy, Los Angeles, California
PROJECT LOCATION-SPECIFIC

City of Santa Monica
PROJECT LOCATION-CITY

Los Angeles
PROJECT LOCATION-COUNTY

DESCRIPTION OF NATURE, PURPOSE, AND BENEFICIARIES OF PROJECT: Const. of 2
new softening beds w/area of approx. 1000 sq. ft. Purpose is to improve water
quality. Beneficiaries are water customers of the City of Santa Monica.

City of Santa Monica

NAME OF PUBLIC AGENCY APPROVING PROJECT

DATE OF PROJECT APPROVAL

General Services Department

NAME OF PERSON OR AGENCY CARRYING OUT PROJECT

EXEMPT STATUS: (Check One)

- Ministerial
Emergency
X Categorical Exemption
General
City CEQA Guidelines
State CEQA Guidelines
Class 1
Class 1

REASONS WHY PROJECT IS EXEMPT: Project involves const. of 2 add. softening
beds, improving the quality of water delivered to Santa Monica resi-
dents. The project will not significantly affect the amount of water used.

Jack Hoagland
CONTACT PERSON

711 458-8224
AREA CODE TELEPHONE EXTENSION

DATE OF EXEMPTION DETERMINATION: 1/11/87

Signature: Stanley L. Hill

AUG 24 1987 THE NOTICE WAS POSTED SEP 2 1987

Director of General Services
TITLE

DEPUTY COUNTY CLERK
18/02/87

City Hall, 1685 Main Street, Santa Monica, California 90401-3295

NOTICE OF EXEMPTION

TO:        State Clearinghouse  
1400 Tenth Street, Room 121  
Sacramento, CA 95814  
  
  X   County Clerk  
County of Los Angeles  
111 N. Hill Street, Room 106  
Los Angeles, CA 90012

FROM: City of Santa Monica  
1685 Main Street  
Santa Monica, CA 90401

Santa Monica Well No. 2A

PROJECT TITLE

City Corporation Yards, Santa Monica

PROJECT LOCATION-SPECIFIC

City of Santa Monica

PROJECT LOCATION-CITY

Los Angeles

PROJECT LOCATION-COUNTY

Replace Santa Monica Well No. 2 with Santa Monica Well No. 2A at the same location.

DESCRIPTION OF NATURE, PURPOSE, AND BENEFICIARIES OF PROJECT

City of Santa Monica

NAME OF PUBLIC AGENCY APPROVING PROJECT

6/88

DATE OF PROJECT APPROVAL

City of Santa Monica General Services Department

NAME OF PERSON OR AGENCY CARRYING OUT PROJECT

EXEMPT STATUS: (Check One)

- Ministerial
- Emergency
- X   Categorical Exemption
- General

CITY CEQA GUIDELINES      STATE CEQA GUIDELINES:

Class 2(3)

Class 2(C)

The project would involve replacement of an existing utility facility involving negligible expansion of capacity.

REASONS WHY PROJECT IS EXEMPT

D. Kenyon Webster  
CONTACT PERSON

(213) 458-8585  
AREA CODE/TELEPHONE

July 7, 1988  
DATE OF EXEMPTION DETERMINATION

*D. Kenyon Webster*  
SIGNATURE

exempt3  
07/11/88

Senior Planner  
TITLE