NEW ISSUE *BOOK-ENTRY-ONLY*

$250,000,000
PUBLIC FACILITIES FINANCING AUTHORITY OF
THE CITY OF SAN DIEGO
SEWER REVENUE BONDS, SERIES 1993
(Payable Solely From Installment Payments Secured By Wastewater System Net Revenues)

Dated, priced, due and bearing interest as set forth on the inside cover page.

The Series 1993 Bonds are issuable as fully registered bonds and when initially issued will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"). Purchases of the Series 1993 Bonds will be made in book-entry form only, in the denominations as set forth in the inside cover of this Official Statement, through brokers and dealers who are, or who act through, DTC Participants. Beneficial Owners of the Series 1993 Bonds will not be entitled to receive physical delivery of bond certificates so long as DTC or a successor securities depository acts as the securities depository with respect to the Series 1993 Bonds. So long as DTC or its nominee is the registered owner of the Series 1993 Bonds, reference herein to Bondholders or registered owners shall mean Cede & Co., as aforesaid, and payments of principal of and interest on the Series 1993 Bonds will be made directly to DTC by State Street Bank and Trust Company of California, N.A., Trustee and Paying Agent. Disbursement of such payments to DTC participants is the responsibility of DTC and disbursement of such payments to the Beneficial Owners is the responsibility of DTC participants (See "THE SERIES 1993 BONDS — Book-Entry-Only System" herein).

Proceeds of the Series 1993 Bonds are to be applied (i) to pay design, engineering, land acquisition and construction costs of certain capital improvements to the Wastewater System of the City of San Diego (the "City"), (ii) to fund a debt service reserve fund and (iii) to pay certain costs of issuance.

The Series 1993 Bonds are special, limited obligations of the Authority payable solely from and secured by Installment Payments to be made by the City to the Authority from Net System Revenues pledged and assigned pursuant to an Installment Purchase Agreement between the Authority and the City. So long as certain conditions are met, the City has the right to transfer a portion of the Wastewater System facilities to a successor entity. Upon such transfer, the City's obligation to make Installment Payments relating to the facilities transferred will be assumed by such successor entity and the City will no longer be responsible for such obligations (See "TRANSFER OF OWNERSHIP OF METROPOLITAN SYSTEM" herein). Payment of the principal and interest when due on the Series 1993 Bonds maturing in the years 1997 to 2013 will be insured by a municipal bond insurance policy to be issued simultaneously with the issuance of the Series 1993 Bonds by AMBAC Indemnity Corporation (See "BOND INSURANCE" herein).

THE OBLIGATION OF THE CITY OF SAN DIEGO TO MAKE INSTALLMENT PAYMENTS DOES NOT CONSTITUTE AN OBLIGATION OF THE CITY FOR WHICH THE CITY IS OBLIGATED TO LEVY OR PLEDGE ANY FORM OF TAXATION OR FOR WHICH THE CITY HAS LEVIED OR PLEDGED ANY FORM OF TAXATION. NEITHER THE PLEDGE MADE BY THE AUTHORITY, NOR THE OBLIGATION OF THE CITY TO MAKE INSTALLMENT PAYMENTS, CREATES A LEGAL OR EQUITABLE PLEDGE, CHARGE, LIEN OR ENCUMBRANCE UPON ANY OF THE CITY'S PROPERTY, OR UPON ITS INCOME, RECEIPTS OR REVENUES OTHER THAN NET SYSTEM REVENUES. THE AUTHORITY HAS NO TAXING POWER.

The Series 1993 Bonds are subject to optional and mandatory redemption prior to maturity as described herein.

In the opinion of Orrick, Herrington & Sutcliffe and Arnelle & Hastie, Co-Bond Counsel, based on an analysis of existing statutes, regulations, rulings and court decisions and assuming (among other things) compliance with certain covenants, interest on the Series 1993 Bonds is excluded from gross income for federal income tax purposes and is exempt from State of California personal income taxes. In the opinion of Co-Bond Counsel, interest on the Series 1993 Bonds is not a specific preference item for purposes of the federal individual and corporate alternative minimum taxes, although Co-Bond Counsel observe that such interest is included in adjusted current earnings in calculating corporate alternative minimum taxable income. Co-Bond Counsel express no opinion regarding any other tax consequences relating to the ownership or disposition of, or the accrual or receipt of interest on, the Series 1993 Bonds (See "TAX EXEMPTION" herein).

The Series 1993 Bonds will be offered when, as and if issued and received by the Underwriters, subject to the approval of validity by Orrick, Herrington & Sutcliffe, Los Angeles, California and Arnelle & Hastie, San Francisco, California, Co-Bond Counsel, and to certain other conditions. Certain legal matters in connection with the Series 1993 Bonds will be passed upon by John W. Witt, Esq., City Attorney of the City of San Diego and General Counsel to the Authority, and Mudge Rose Guthrie Alexander & Ferdon, Los Angeles, California and Harrison, Taylor & Bazile, San Diego, California, as counsel to the Underwriters. It is expected that the Series 1993 Bonds will be available for delivery through DTC in New York, New York, on or about October 12, 1993.

MORGAN STANLEY & CO.
Incorporated

KEMPER SECURITIES, INC. **RAUSCHER PIERCE REFSNES, INC.**

CHARLES A. BELL SECURITIES CORP.

RENGE SECURITIES & CO.

MURIEL SIEBERT & CO. INC.

September 30, 1993

No dealer, broker, salesperson or other person has been authorized by the City of San Diego, the Public Facilities Financing Authority of the City of San Diego or the Underwriters to give any information or to make any representations other than those contained herein and, if given or made, such other information or representation must not be relied upon. Neither the delivery of this Official Statement or any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the ty of San Diego or the Public Facilities Financing Authority of the City of San Diego. This Official Statement does not constitute an ffer to sell or the solicitation of an offer to buy, nor shall there be any sale of the Series 1993 Bonds by a person in any jurisdiction in h it is unlawful for such person to make such offer, solicitation or sale.

IN CONNECTION WITH THIS OFFERING OF THE SERIES 1993 BONDS, THE UNDERWRITERS MAY OVER-ALLOT OR EFFECT TRANSACTIONS THAT STABILIZE OR MAINTAIN THE MARKET PRICE OF SUCH BONDS AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

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Metropolitan Sewerage System Planned Facilities

Consumers' Alternative

Clean Water – Metro – Municipal

PHASE I (1992-2003)

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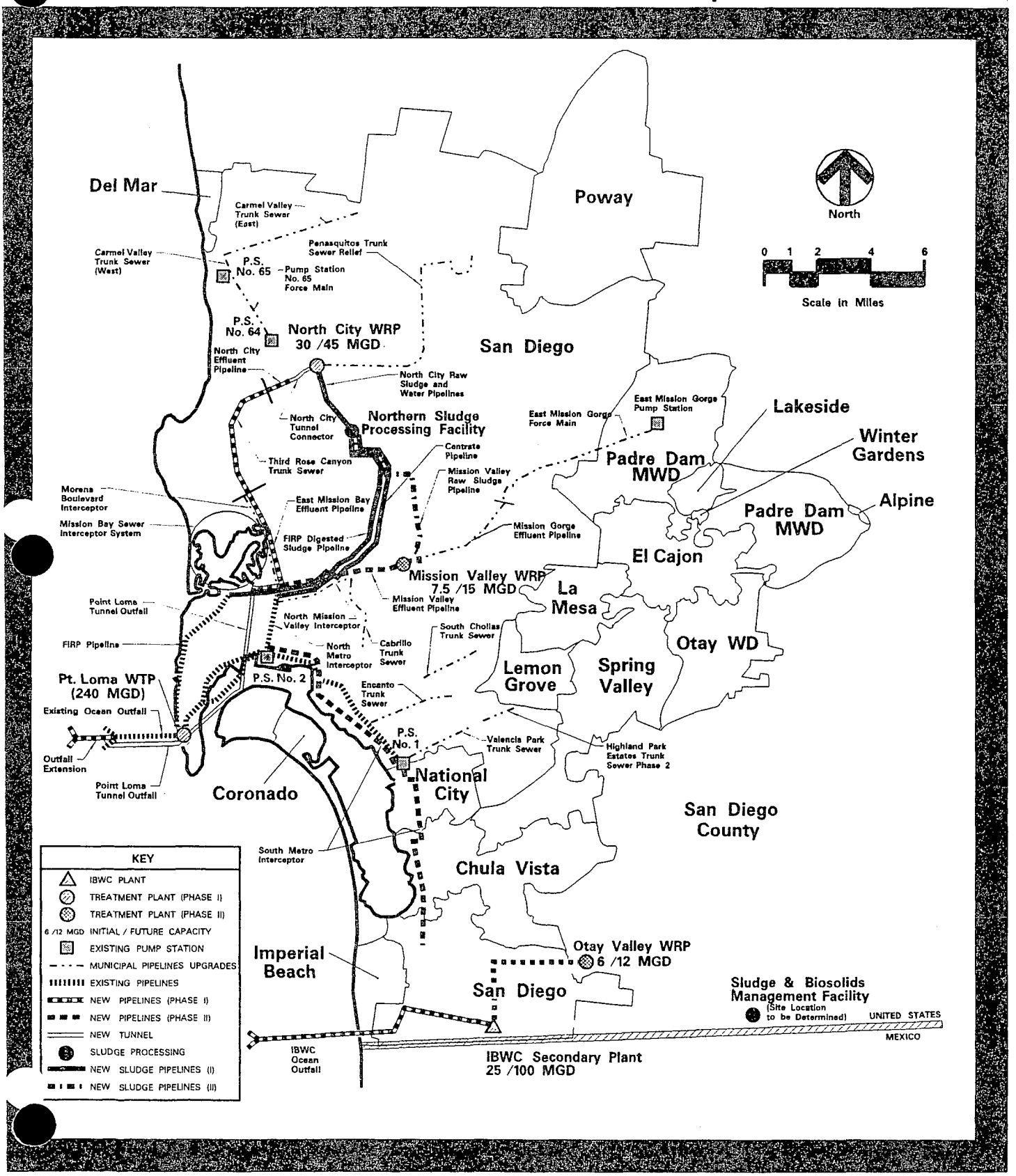

SUMMARY STATEMENT

This Summary Statement is qualified in all respects by the more complete information contained elsewhere in this Official Statement, including the Appendices. This Official Statement should be read in its entirety, and no one subject discussed herein should be considered less important than any other by reason of its location in the text. Unless otherwise defined below, all capitalized terms used in this Summary Statement shall have the meanings ascribed thereto in Appendix D to this Official Statement.

City of San Diego

The City of San Diego (the "City") is the sixth largest city in the United States and the second largest city in the State of California. The City's estimated population for 1992 was approximately 1.082 million.

The San Diego Wastewater System

The Wastewater System is owned and operated by the City under the administration of the Water Utilities Department and consists of the Municipal System and Metropolitan System. The Municipal System provides sewage collection within the City and consists of over 2,450 miles of municipal sewer mains and 106 sewer and storm water pumping stations within the City. The Metropolitan System provides sewage transportation, treatment and disposal services to more than 1.7 million residents within a regional service area which encompasses the City and 15 Participating Agencies (eight incorporated cities and seven districts). The communities and agencies served by the Wastewater System form the second largest integrated metropolitan area in the State of California surpassed only by the Los Angeles metropolitan area. (See "WASTEWATER SYSTEM" herein.)

The operations of the Wastewater System are accounted for in a separate enterprise fund - the Sewer Revenue Fund. All Wastewater System Revenues are deposited in the Sewer Revenue Fund. The Installment Payments relating to the Series 1993 Bonds are, and any Parity Obligations will be, secured by Net System Revenues.

The Authority

The Authority is a joint powers authority created by the City and its Redevelopment Agency to engage in financing activities. The Authority has no taxing power. (See "THE AUTHORITY" herein.)

Purpose of the Financing

The Series 1993 Bonds are being issued (i) to pay design, engineering, land acquisition and construction costs of certain capital improvements to the Metropolitan System, (ii) to fund a debt service reserve fund, and (iii) to pay certain costs of issuance.

The Series 1993 Bonds

The Series 1993 Bonds will be issued in the aggregate principal amount of $250,000,000. The Series 1993 Bonds shall be in the denominations set forth on the inside cover page of this Official Statement.

Redemption Provisions

The Series 1993 Bonds will be subject to optional redemption with the redemption premiums described herein, and the Series 1993 Bonds designated as Term Bonds will be subject to mandatory redemption, all as more fully described herein. (See "DESCRIPTION OF THE SERIES 1993 BONDS" herein.)

Security for the Series 1993 Bonds

The Series 1993 Bonds are payable solely from Installment Payments which are payable from a pledge and lien on Net System Revenues by the City to the Authority under the Installment Purchase Agreement. Net System Revenues are System Revenues less Maintenance and Operation Costs of the Wastewater System.

The City has covenanted in the Installment Purchase Agreement not to discontinue or suspend any Installment Payments whether or not the Project or any part thereof is operating or operable or has been completed, or its use is suspended, interfered with, reduced, curtailed or terminated in whole or in part, and such Installment Payments shall not be subject to reduction whether by offset or otherwise and shall not be conditional upon the performance or non-performance by any party of any agreement for any cause whatsoever.

$250,000,000

PUBLIC FACILITIES FINANCING AUTHORITY OF THE CITY OF SAN DIEGO SEWER REVENUE BONDS, SERIES 1993

(Payable Solely From Installment Payments Secured by Wastewater System Net Revenues)

INTRODUCTION

This Official Statement, which includes the cover page and appendices hereto, is being furnished in connection with the issuance by the Public Facilities Financing Authority of the City of San Diego California (the "Authority") of its $250,000,000 aggregate principal amount of Sewer Revenue Bonds, Series 1993 (Payable Solely From Installment Payments Secured By Wastewater System Net Revenues) (the "Series 1993 Bonds"). The Master Installment Purchase Agreement (said Installment Purchase Agreement together with any Supplements thereto, the "Installment Purchase Agreement"), dated as of September 15, 1993, between the Authority and the City of San Diego (the "City"), provides for the sale of certain facilities to the City by the Authority in consideration of the City's payment of Installment Payments to the Authority in an amount equal to the principal and interest on the Series 1993 Bonds. The Indenture (the "Indenture"), dated as of September 15 , 1993, between the Authority and State Street Bank and Trust Company of California, N.A., as Trustee, provides for the execution, delivery and issuance of the Series 1993 Bonds. The Series 1993 Bonds are being issued pursuant to the provisions of the Joint Powers Act, comprising Article 1, Article 2 and Article 4 (commencing with Section 6500) of Chapter 5 of Division 7 of Title 1 of the Government Code of the State of California. Capitalized terms not otherwise defined herein shall have the meaning given to such terms in "APPENDIX D - DEFINITIONS OF CERTAIN TERMS".

The Series 1993 Bonds are special, limited obligations payable from and secured by Installment Payments made by the City to the Authority from Net System Revenues pursuant to the Installment Purchase Agreement. Installment Payments are in an amount equal to the principal and interest due on the Series 1993 Bonds. System Revenues are generally derived from the ownership and operation of the Wastewater System and consist primarily of moneys derived by the City from the operation of the Wastewater System. Net System Revenues are System Revenues less Maintenance and Operation Costs of the Wastewater System. The City has pledged and assigned Net System Revenues pursuant to the Installment Purchase Agreement to the payment of the Installment Payments. Pursuant to the Indenture, the Authority has irrevocably pledged the Installment Payments to the payment of principal and interest on the Series 1993 Bonds. (See "SECURITY FOR THE BONDS" herein.)

The Installment Purchase Agreement defines the Wastewater System to be any and all facilities, properties and improvements at any time owned, controlled or operated by the City as part of the Sewer Revenue Fund, including the Municipal System and the Metropolitan System. The Municipal System consists of the facilities, properties and improvements of the City for the collection and treatment of sewage from the points of origination thereof and the conveyance of sewage to the Metropolitan System. The Metropolitan System consists of the facilities, properties and improvements, designated by the City in its sole discretion as part of the Metropolitan System, used for the treatment, discharge and disposal of sewage collected by the City through the Municipal System and any of the Participating Agencies.

The Installment Purchase Agreement allows the City, upon the satisfaction of certain conditions, to transfer ownership of the Metropolitan System to the San Diego Area Wastewater Management District ("the District") or a governmental agency whose primary function is to provide wastewater treatment, discharge and disposal services provided such transferee assumes all obligations relating to the Metropolitan System payable from Net Metropolitan System Revenue which would include the Installment Payments providing for the payment of the principal and

interest on the Series 1993 Bonds. Upon satisfaction of such conditions, the City shall be relieved and discharged from any and all obligations relating to the Metropolitan System, including the Installment Payments relating to the Series 1993 Bonds. Upon any such transfer of the Metropolitan System, the Wastewater System shall mean the Municipal System with respect to the City and the Metropolitan System with respect to such transferee. (See "TRANSFER OF OWNERSHIP OF METROPOLITAN SYSTEM" herein.)

The Installment Purchase Agreement authorizes the Authority to acquire certain components of the Project with the proceeds of the Series 1993 Bonds and to sell such components of the Project to the City in consideration of the City's payment of Installment Payments to the Authority. The Project consists of design and engineering costs, costs of land acquisition, construction and other initial costs relating to certain capital improvements to the Metropolitan System.

The obligation of the City to make Installment Payments does not constitute an obligation of the City for which the City is obligated to levy or pledge any form of taxation or for which the City has levied or pledged any form of taxation. Neither the pledge made by the Authority, nor the obligation of the City to make Installment Payments, creates a legal or equitable pledge, charge, lien or encumbrance upon any of the City's property, or upon its income, receipts or revenues other than Net System Revenues. The Authority has no taxing power.

The descriptions and summaries of various documents in this Official Statement are qualified in their entirety by reference to such documents. Copies of the Installment Purchase Agreement, the Indenture, the City Charter, the Sewerage Utility Fund audited financial statements and additional information relevant to the City may be obtained from the Office of the City Clerk, City Administration Building, 202 C Street, MS 2A, San Diego, CA 92101.

DESCRIPTION OF THE SERIES 1993 BONDS

General Terms

The Series 1993 Bonds will be issued in the aggregate principal amount, will bear interest at the rates per annum and will mature in the principal amounts in each year (subject to prior redemption), as set forth on the inside cover page hereof. The Series 1993 Bonds are issuable only in fully registered form and, when issued, will be registered in the name of Cede & Co., as registered owner and nominee of The Depository Trust Company, New York, New York ("DTC"). DTC will act as securities depository for the Series 1993 Bonds. Purchasers will not receive certificates representing their interest in the Series 1993 Bonds purchased. (See "Book-Entry Only System" below.)

The Series 1993 Bonds may be transferred only on the registration books of the Authority kept for that purpose at the principal corporate trust office of the Trustee, as Bond Registrar. Neither the Authority nor the Bond Registrar will be required (i) to transfer or exchange the Series 1993 Bonds (a) for a period beginning with the close of business on the 15th day next preceding any interest payment date and ending on such interest payment date, or (b) for a period beginning with a date selected by the Trustee not more than 15 nor less than 10 days prior to a date fixed for the payment of any interest which, at the time, is payable, but has not been punctually paid or duly provided for, and ending with the date fixed for such payment, (ii) to transfer or exchange Series 1993 Bonds for a period beginning 15 days before the mailing of any notice of redemption and ending on the day of such mailing, or (iii) to transfer or exchange any Series 1993 Bonds called for redemption.

The Series 1993 Bonds will be paid to the person in whose name such Bond is registered on the applicable record date, which is the 15th day preceding each interest payment date. Interest on the Series 1993 Bonds will be payable by check of the Trustee, mailed to the registered owners at the addresses shown on the registration books of Authority kept for that purpose at the principal corporate trust office of the Trustee as of the close of business on the applicable record date; provided, however, if the Series 1993 Bonds are in certificated form, interest shall

be payable by wire transfer to registered owners who own Series 1993 Bonds in the principal amount of not less than $1,000,000. The principal and redemption price of all Series 1993 Bonds will be payable at the principal corporate trust office of the Trustee.

Series 1993 Bonds

The Series 1993 Bonds will be dated September 15, 1993 and interest thereon will accrue from such date. Beneficial ownership of Series 1993 Bonds may be purchased in denominations of $5,000 or any integral multiple thereof in book-entry form only. Interest on the Series 1993 Bonds is payable on May 15 and November 15 of each year, commencing May 15, 1994. The Series 1993 Bonds will mature on the dates and in the aggregate principal amounts, and will bear interest at the per annum rates, set forth on the inside cover page of this Official Statement.

Optional Redemption. The Series 1993 Bonds maturing on or before May 15, 2003, are not subject to redemption prior to maturity. If the City elects its option to prepay Installment Payments under the terms of the Installment Purchase Agreement, the Series 1993 Bonds maturing on or after May 15, 2004 are subject to redemption prior to their stated maturities on or after May 15, 2003, in whole or in part on any date (if in part, in maturities selected by the Authority and by lot within any maturity), at the redemption prices set forth below (expressed as a percentage of the principal, or portion thereof, to be prepaid), plus accrued interest, to the date fixed for redemption:

Redemption Period (Both dates inclusive)	Redemption Price
May 15, 2003 through May 14, 2004	102%
May 15, 2004 through May 14, 2005	101
May 15, 2005 and thereafter	100

Mandatory Sinking Fund Redemption. The Series 1993 Bonds maturing on May 15, 2013, May 15, 2020 and May 15, 2023 (collectively the "Term Bonds") are subject to mandatory sinking fund redemption at a redemption price equal to the principal amount thereof without premium plus accrued interest to the redemption date.

The Series 1993 Bonds maturing on May 15, 2013 shall be redeemed on May 15 in the years and in the principal amounts set forth in the table below:

Year	Principal Amount
2011	$8,510,000
2012	8,935,000
2013	9,385,000*

*Final Maturity

The Series 1993 Bonds maturing on May 15, 2020 shall be redeemed on May 15 in the years and in the principal amounts set forth in the table below:

Year	Principal Amount
2014	$9,855,000
2015	10,370,000
2016	10,915,000
2017	11,490,000
2018	12,090,000
2019	12,725,000
2020	13,395,000*

*Final Maturity

The Series 1993 Bonds maturing on May 15, 2023 shall be redeemed on May 15 in the years and in the principal amounts set forth in the table below:

Year	Principal Amount
2021	$14,095,000
2022	14,800,000
2023	15,540,000*

*Final Maturity

Credit Against Mandatory Sinking Fund Requirement. At the option of the Authority, it may credit against any mandatory sinking fund requirement of the Term Bonds or portions thereof which are of the same maturity as the Term Bonds subject to redemption and which, prior to said date, have been purchased, with funds other than moneys in a Sinking Account as hereinafter defined, at public or private sale or redeemed and canceled by the Authority and not theretofore applied as a credit against any mandatory sinking fund requirement. The Authority and the City may also elect to have moneys in the Sinking Account applied to the purchase of the Term Bonds which in turn shall be credited against any mandatory sinking fund redemption requirement all as provided for in the Indenture. If, during the twelve-month period immediately preceding said mandatory sinking account payment date, the Trustee has purchased Term Bonds of such maturity with moneys in such Sinking Account, such Bonds so purchased shall be applied, to the extent of the full principal amount thereof, to reduce said mandatory sinking account payment.

Notice of Redemption. Notice of redemption shall be given by the Trustee not less than 30 days nor more than 60 days prior to the redemption date to (i) the respective Owners of the Series 1993 Bonds designated for redemption at their addresses appearing on the registration books of the Trustee by first class mail, and (ii) the Securities Depositories and the Information Services shall be given by certified or registered mail or overnight delivery. Each notice of redemption shall state the date of such redemption, the redemption price, if any, the name

and appropriate address of the Trustee, the CUSIP number, if any, of the maturity or maturities, and, if less than all of any such maturity is to be redeemed, the distinctive certificate numbers of the Series 1993 Bonds of such maturity to be redeemed and, in the case of Series 1993 Bonds to be redeemed in part only, the respective portions of the principal amount thereof to be redeemed. Each such notice shall also state that on said date there will become due and payable on each of said Series 1993 Bonds thereof and in the case of a Series 1993 Bond to be redeemed in part only, the specified portion of the principal amount thereof to be redeemed, together with interest accrued thereon to the redemption date, and that from and after such redemption date interest thereon shall cease to accrue, and shall require that such Series 1993 Bonds be then surrendered at the address of the Trustee specified in the redemption notice.

Book-Entry-Only System

The information contained in the following paragraphs of this subsection "Book-Entry-Only System" has been extracted from a schedule prepared by DTC entitled "SAMPLE OFFICIAL STATEMENT LANGUAGE DESCRIBING BOOK-ENTRY-ONLY ISSUANCE." The Authority and the City make no representation as to the completeness or the accuracy of such information or as to the absence of material adverse changes in such information subsequent to the date hereof.

1. DTC will act as securities depository for the Series 1993 Bonds. The Series 1993 Bonds will be issued as fully registered securities in the names of Cede & Co. (DTC's partnership nominee). One fully registered Series 1993 Bonds certificate will be issued for each maturity of the Series 1993 Bonds, each in the aggregate principal amount of such maturity, and will be deposited with DTC. If, however, the aggregate principal amount of any maturity exceeds $150 million, one certificate will be issued with respect to each $150 million of principal amount and an additional certificate will be issued with respect to any remaining principal amount of such issue.

2. DTC is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds securities that its participants ("Participants") deposit with DTC. DTC also facilitates the settlement among Participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry changes in Participants' accounts, thereby eliminating the need for physical movement of securities certificates. Direct Participants include securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is owned by a number of its Direct Participants and by the New York Stock Exchange, Inc., the American Stock Exchange, Inc., and the National Association of Securities Dealers, Inc. Access to the DTC system is also available to others such as securities brokers and dealers, banks, and trust companies that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). The Rules applicable to DTC and its Participants are on file with the Securities and Exchange Commission.

3. Purchases of Series 1993 Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Series 1993 Bonds on DTC's records. The ownership interest of each actual purchaser of each Series 1993 Bonds ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase, but Beneficial Owners are expected to receive written confirmation providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in Series 1993 Bonds are to be accomplished by entries made on the books of Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interest in Series 1993 Bonds, except in the event that use of the book-entry system for the Series 1993 Bonds is discontinued.

4. To facilitate subsequent transfers, all Series 1993 Bonds deposited by Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co. The deposit of Series 1993 Bonds with DTC and their registration in name of Cede & Co., effect no change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Series 1993 Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Series 1993 Bonds are credited, which may or may not be the Beneficial Owners. The Participants will remain responsible for keeping account of their holdings on behalf of their customers.

5. Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

6. Redemption notices shall be sent to Cede & Co. If less than all of the Series 1993 Bonds within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

7. Neither DTC nor Cede & Co. will consent or vote with respect to the Series 1993 Bonds. Under its usual procedures, DTC mails an Omnibus Proxy to the Authority as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Series 1993 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

8. Principal and interest on the Series 1993 Bonds will be made to DTC. DTC's practice is to credit Direct Participants' accounts on payable date in accordance with their respective holdings shown on DTC's records unless DTC has reason to believe that it will not receive payment on payable date. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as in the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Trustee, or the Authority, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to DTC is the responsibility of the Authority or the Trustee, disbursement of such payments to Direct Participants shall be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners shall be the responsibility of Direct and Indirect Participants.

9. DTC may discontinue providing its services as securities depository with respect to the Series 1993 Bonds at any time by giving reasonable notice to the Authority or the Trustee. Under such circumstances, in the event that a successor securities depository is not obtained, Series 1993 Bonds will be printed and delivered.

10. The Authority may decide to discontinue use of the system book-entry transfers through DTC (or a successor securities depository). In that event, Series 1993 Bond certificates will be printed and delivered.

11. The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that the Authority believes to be reliable, but the Authority takes no responsibility for the accuracy thereof.

NONE OF THE AUTHORITY, THE CITY OR THE UNDERWRITERS WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO PARTICIPANTS, TO INDIRECT PARTICIPANTS OR TO ANY BENEFICIAL OWNER WITH RESPECT TO (I) THE ACCURACY OF ANY RECORDS MAINTAINED BY DTC, ANY PARTICIPANT, OR ANY INDIRECT PARTICIPANT; (II) THE PAYMENT BY DTC OR ANY PARTICIPANT OR INDIRECT PARTICIPANT OF ANY AMOUNT WITH RESPECT TO THE PRINCIPAL OF, OR PREMIUM, IF ANY, OR INTEREST ON, THE SERIES 1993 BONDS; (III) ANY NOTICE WHICH IS PERMITTED OR REQUIRED TO BE GIVEN TO BONDOWNERS; (IV) ANY CONSENT GIVEN BY DTC OR OTHER ACTION TAKEN BY DTC AS BONDOWNER; OR (V) THE SELECTION BY DTC OR ANY

PARTICIPANT OR INDIRECT PARTICIPANT OF ANY BENEFICIAL OWNERS TO RECEIVE PAYMENT IN THE EVENT OF A PARTIAL REDEMPTION OF THE SERIES 1993 BONDS.

Purpose of Financing

The proceeds of the Series 1993 Bonds will be applied to finance a portion of the costs of certain capital improvements relating to the Metropolitan System. (See "WASTEWATER SYSTEM CAPITAL IMPROVEMENT PROGRAM" herein). These include costs of engineering and design, legal and administrative services, and acquisition of rights-of-way, land acquisition, construction and equipment. The remaining proceeds of the Series 1993 Bonds are to be applied to fund a debt service reserve fund and to pay costs of issuance.

Concurrently with the issuance of the Series 1993 Bonds, the City, from available Sewer Revenue Fund moneys, will deposit with an escrow agent an amount sufficient, without reinvestment, to pay the respective redemption prices of the City's outstanding Sewer Revenue Bonds, 1961 (the "1961 Bonds") and the City's outstanding Sewer Revenue Bonds, 1966 A and 1966 B (the "1966 Bonds") and the interest coming due on such Bonds on and prior to the respective redemption dates for such Bonds. The redemption date for the 1961 Bonds is December 1, 1993 and the redemption date for the 1966 Bonds is November 1, 1993. In the opinion of Co-Bond Counsel, upon deposit of such moneys with such escrow agent, the 1961 Bonds and the 1966 Bonds shall no longer be outstanding and shall cease having any lien on the Sewer Revenue Fund.

Application of Series 1993 Bond Proceeds

The proceeds of the Series 1993 Bonds (excluding accrued interest which will be deposited in the Payment Fund, Interest Account) are to be applied as follows:

Principal amount of the Series 1993 Bonds	$250,000,000
Less: Original Issue Discount	5,395,521
Total Amount Available	$244,604,479
Deposit to Acquisition Fund[1]	$225,810,492
Costs of Issuance[2]	2,472,376
Deposit to Reserve Fund[3]	16,321,611
Total Amount Applied	$244,604,479

(1) To be held by the City Treasurer and applied to pay Acquisition Costs.
(2) Includes underwriters' discount and bond insurance premium.
(3) The deposit is an amount equal to the Reserve Requirement.

Debt Service Requirements

The following table shows the debt service requirements with respect to the Series 1993 Bonds.

Table 1

SERIES 1993 BONDS DEBT SERVICE REQUIREMENTS

Year Ending June 30	Principal	Interest	Total Debt Service
1994	$2,855,000	$8,026,400.83	$10,881,400.83
1995	4,360,000	11,959,661.25	16,319,661.25
1996	4,500,000	11,817,961.25	16,317,961.25
1997	4,660,000	11,660,461.25	16,320,461.25
1998	4,820,000	11,497,361.25	16,317,361.25
1999	5,000,000	11,316,611.25	16,316,611.25
2000	5,205,000	11,116,611.25	16,321,611.25
2001	5,415,000	10,903,206.25	16,318,206.25
2002	5,645,000	10,675,776.25	16,320,776.25
2003	5,885,000	10,433,041.25	16,318,041.25
2004	6,145,000	10,174,101.25	16,319,101.25
2005	6,420,000	9,897,576.25	16,317,576.25
2006	6,720,000	9,600,651.25	16,320,651.25
2007	7,040,000	9,281,451.25	16,321,451.25
2008	7,375,000	8,943,531.25	16,318,531.25
2009	7,735,000	8,584,000.00	16,319,000.00
2010	8,115,000	8,204,985.00	16,319,985.00
2011	8,510,000	7,807,350.00	16,317,350.00
2012	8,935,000	7,381,850.00	16,316,850.00
2013	9,385,000	6,935,100.00	16,320,100.00
2014	9,855,000	6,465,850.00	16,320,850.00
2015	10,370,000	5,948,462.50	16,318,462.50
2016	10,915,000	5,404,037.50	16,319,037.50
2017	11,490,000	4,831,000.00	16,321,000.00
2018	12,090,000	4,227,775.00	16,317,775.00
2019	12,725,000	3,593,050.00	16,318,050.00
2020	13,395,000	2,924,987.50	16,319,987.50
2021	14,095,000	2,221,750.00	16,316,750.00
2022	14,800,000	1,517,000.00	16,317,000.00
2023	15,540,000	777,000.00	16,317,000.00

SECURITY FOR THE SERIES 1993 BONDS

Source of Payment

The Series 1993 Bonds are payable solely from Installment Payments made by the City from Net System Revenues pursuant to the Installment Purchase Agreement. All Parity Obligations, including the Installment Payments pledged to the payment of the Series 1993 Bonds, shall be secured by a lien on and pledge of Net System Revenues, and within such lien priority, Parity Obligations shall be of equal rank without preference, priority or distinction of any Parity Obligations over any other Parity Obligations. Such lien and pledge shall constitute a first lien on Net System Revenues; provided, however, that out of Net System Revenues there may be apportioned such sums for such purposes as are expressly permitted by the Installment Purchase Agreement.

The Sewer Revenue Fund

The City accounts for its wastewater operations through an enterprise fund known as the Sewerage Utility Fund which is herein referred to as the "Sewer Revenue Fund". The Sewer Revenue Fund was established pursuant to the San Diego Municipal Code and is held separate and apart from other funds of the City.

All System Revenues are deposited in the Sewer Revenue Fund. All moneys in the Sewer Revenue Fund are held in trust separate and apart from any other funds of the City and shall be used to pay (i) all Maintenance and Operation Costs of the Wastewater System and (ii) all Parity Obligations, including Installment Payments equal to the principal and interest and the Series 1993 Bonds. After such payments have been made, any remaining System Revenues shall be used to make up any deficiency in the Reserve Funds and Reserve Accounts for Parity Obligations and, subject to certain conditions, then may be used to pay for capital expenditures for the Wastewater System or any other Wastewater System purposes, including the payment of Subordinated Obligations, if any.

Net System Revenues

Net System Revenues are System Revenues less Maintenance and Operation Costs of the Wastewater System. System Revenues are defined by the Installment Purchase Agreement to include all income, rents, rates, fees, charges and other moneys derived from the ownership or operation of the Wastewater System. Notwithstanding the foregoing, there shall be deducted from System Revenues any amounts transferred into the Rate Stabilization Fund, and there shall be added to System Revenues any amounts transferred out of such Rate Stabilization Fund solely to pay Maintenance and Operation Costs of the Wastewater System. Under the Installment Purchase Agreement, the City has retained the right to transfer ownership of the Metropolitan System. Upon any such transfer of the Metropolitan System permitted by the Installment Purchase Agreement, System Revenues shall be deemed to be only Metropolitan System Revenues and Municipal System Revenues, respectively. (For a more detailed description of System Revenues, Metropolitan System Revenues and Municipal System Revenues, see "APPENDIX D - Definitions of Certain Terms").

Maintenance and Operations Costs of the Wastewater System are defined in the Installment Purchase Agreement to include, among other things (i) a Qualified Take or Pay Obligation, (ii) fees and expenses of a Credit Provider (exclusive of payment of Credit Provider Reimbursement Obligations), and (iii) the reasonable and necessary costs spent or incurred by the City for operating the Wastewater Systems in accordance with generally accepted accounting principles, but excluding in all cases (a) depreciation, replacement and obsolescence charges or reserves therefor, (b) amortization of intangibles or other bookkeeping entries of a similar nature, (c) costs of capital additions, replacements, betterments, extensions or improvements to the Wastewater System, which under generally accepted accounting principles are chargeable to a capital account or to a reserve for depreciation, (d) charges for the payment of principal and interest on any general obligation bond theretofore or hereafter issued for Wastewater System purposes, and (e) charges for the payment of principal and interest on any debt service on account of any obligation on a parity with or subordinate to the Installment Payments. Qualified Take or Pay Obligations means the obligation of the City to make use of any facility, property or services, or some portion of the capacity thereof, or to pay therefor from System Revenues, or both, whether or not such facilities, properties or services are ever made available to the City for use, and, there is provided to the City a certificate of an Independent Engineer to the effect that the incurrence of such obligation will not adversely affect the ability of the City to comply with the rate covenant contained in the Installment Purchase Agreement. Under the Installment Purchase Agreement, the City has retained the right to transfer ownership of the Metropolitan System. Upon any such transfer of the Metropolitan System permitted by the Installment Purchase Agreement, Maintenance and Operations Costs of the Wastewater System shall be deemed to be Maintenance and Operations Costs of the Metropolitan System and Maintenance and Operations Costs of the Municipal System, respectively. (For a more detailed description of Maintenance and Operations Costs of the Wastewater System, Metropolitan System, Maintenance and Operations Costs of the Municipal System and Maintenance and Operations Costs, see "APPENDIX D-Definitions of Certain Terms").

Obligation of City Under Installment Purchase Agreement

Pursuant to the Installment Purchase Agreement, the City commits, absolutely and unconditionally, to make Installment Payments to the Authority solely from Net System Revenues until such time as the purchase price for the components of the Project financed has been paid in full (or provision for the payment thereof has been made pursuant to the Indenture). The City will not discontinue or suspend any Installment Payments whether or not the

Project or any part thereof is operating or operable or has been completed, or its use is suspended, interfered with, reduced, curtailed or terminated in whole or in part, and such Installment Payments shall not be subject to reduction whether by offset or otherwise and shall not be conditional upon the performance or non-performance by any party of any agreement for any cause whatsoever.

Rate Covenant

The City has covenanted in the Installment Purchase Agreement to fix, prescribe and collect rates and charges for Wastewater Service which during each Fiscal Year will be at least sufficient (i) to pay all Obligations, (other than Parity Obligations) and (ii) to yield Net System Revenues equal to one hundred twenty percent (120%) of the Debt Service for such Fiscal Year. The City may make adjustments from time to time in such rates and charges including reclassification of users as it deems necessary, but shall not reduce the rates and charges then in effect unless the Net System Revenues from such reduced rates and charges will at all times be sufficient to meet the requirements of the Installment Purchase Agreement.

The City may establish, as a fund within the Sewer Revenue Fund, a fund designated as the Rate Stabilization Fund. From time to time the City may deposit into the Rate Stabilization Fund, from current System Revenues, such amounts as the City shall determine and the amount of available current System Revenues shall be reduced by the amount so transferred. From time to time the City may transfer amounts on deposit in the Rate Stabilization Fund to the Sewer Revenue Fund solely to pay Maintenance and Operation Costs, and any amounts so transferred shall be deemed System Revenues when so transferred. All interest or other earnings upon amounts in the Rate Stabilization Fund may be withdrawn therefrom and accounted for as System Revenues.

Pledge Under the Indenture

Pursuant to the Indenture, the Authority has irrevocably pledged all Revenues and amounts on deposit in the funds and accounts established under the Indenture (other than amounts on deposit in the Rebate Fund) to the payments of principal and interest on the Series 1993 Bonds. The Indenture defines the term "Revenues" to mean all Installment Payments paid by the City pursuant to the Installment Purchase Agreement, including interest or profits from the investment of money in any account or fund (other than the Rebate Fund). In order to secure the pledge of the Revenues, the Authority has transferred, conveyed and assigned to the Trustee, for the benefit of the Owners, all of the Authority's rights under the Installment Purchase Agreement (excluding its right to indemnification thereunder), including the right to receive Installment Payments from the City, the right to receive any proceeds of insurance maintained thereunder or any condemnation award rendered with respect to the Project and the right to exercise any remedies provided therein in the event of a default by the City thereunder.

The Trustee will establish and maintain special trust funds to be held by the Trustee called the Payment Fund and the Reserve Fund. Within the Payment Fund, the Trustee will establish and maintain the Interest Account, the Principal Account, the Bond Sinking Account and the Redemption Account. Under the Installment Purchase Agreement, the City will pay the Installment Payments out of the Sewer Revenue Fund to the Trustee for deposit into the Payment Fund an amount equal each to Installment Payment attributable to the interest and of each Installment Payment attributable to principal so that the principal and interest due on the Series 1993 Bonds shall be paid no later than the last business day on which such payment is due. Subject to the provisions of the Indenture, all money in the Payment Fund will be set aside by the Trustee in the following respective special accounts within the Payment Fund in the following order of priority: (i) Interest Account, (ii) Principal Account, and (iii) Redemption Account.

Reserve Fund

A portion of the proceeds of the Series 1993 Bonds will be deposited in the Reserve Fund to fund the Reserve Requirement which is defined to be, as of any date of calculation, the least of (i) 10% of the proceeds of the Series 1993 Bonds, (ii) Maximum Annual Debt Service on the Series 1993 Bonds for the then current or any future fiscal year or (iii) 125% of average Annual Debt Service on the Series 1993 Bonds.

At the option of the City, amounts required to be held in the Reserve Fund may be withdrawn, in whole or in part, upon the deposit of a Credit Facility with the Trustee, in a stated amount equal to the amounts so withdrawn, provided, that prior to the deposit of such Credit Facility, each of the rating agencies then rating the Series 1993 Bonds shall be notified of such proposed withdrawal and the deposit of such Credit Facility shall not

result in a withdrawal or downgrading of any rating of the Series 1993 Bonds then in effect by each of the rating agencies then rating such Bonds. Any such withdrawal shall be transferred, at the election of the City, to the Acquisition Fund, to the Principal Account of the Payment Fund, to the Redemption Account of the Payment Fund or to a special account to be established for the payment of any fees in connection with obtaining such Credit Facility.

Parity Obligations

The City may not create any Obligations the payments of which are senior or prior in right to the payment by the City of Parity Obligations. The City may at any time issue or create Parity Obligations, provided: the City obtains or provides a certificate or certificates, prepared by the City or at the City's option by a Consultant, showing that:

(i) the Net System Revenues as shown by the books of the City for any 12 consecutive month period out of the 18 consecutive months ending immediately prior to the incurring of such other Parity Obligations shall have amounted to at least 1.20 times the Maximum Annual Debt Service on all Parity Obligations Outstanding during such period; and

(ii) the estimated Net System Revenues for the next 12 months following the date of issuance of such other Parity Obligations will be at least equal to 1.20 times the Maximum Annual Debt Service for all Parity Obligations which will be Outstanding immediately after the issuance of the proposed Parity Obligations.

For purposes of the computations to be made as described in clause (ii) above, the determination of the Net System Revenues may take into account any increases in rates and charges which relate to the Wastewater System and shall take into account any reduction in such rates and charges, which will, for purposes of the test described in clause (ii), will be effective during the Fiscal Year ending within the 12-month period for which such estimate is made; and may take into account an allowance for any estimated increase in such Net System Revenues from any revenue producing additions or improvements to or extensions of the Wastewater System, to be made with the proceeds of such additional indebtedness or with the proceeds of Parity Obligations previously issued, all in an amount equal to the estimated additional average annual Net System Revenues to be derived from such additions, improvements and extensions for the first 36-month period in which each addition, improvement or extension is respectively to be in operation, all as shown by such certificate of the City or a Consultant, as applicable; and for the period contemplated by clause (ii) Maintenance and Operation Costs of the Wastewater System shall be deemed to be equal to such costs for the 12 consecutive months immediately prior to incurring such other Parity Obligations, but adjusted if deemed necessary, by the City or a Consultant, as applicable, for any increased Maintenance and Operations Costs of the Wastewater System which are, in the judgment of the City or a Consultant, as applicable, essential to maintaining and operating the Wastewater System and which will occur during the Fiscal Year ending within the period contemplated by clause (ii).

The certificate or certificates described in (ii) above shall not be required if the Parity Obligations being issued are for the purpose of refunding (a) then Outstanding Parity Obligations if at the time of the issuance of such Parity Obligations a certificate of an Authorized City Representative shall be delivered showing that Debt Service in each Fiscal Year on all Parity Obligations Outstanding after the issuance of the refunding Parity Obligations will not exceed the Debt Service in each corresponding Fiscal Year on all Parity Obligations Outstanding prior to the issuance of such Parity Obligations; or (b) then Outstanding Balloon Indebtedness, Tender Indebtedness or Variable Rate Indebtedness, but only to the extent that the principal amount of the refunding Parity Obligations (without regard to amounts thereof which after issuance are to be accreted) does not exceed the principal amount of the Balloon Indebtedness, Tender Indebtedness or Variable Rate Indebtedness has been put, tendered to or otherwise purchased by a standby purchase or other liquidity facility relating to such Indebtedness. (For additional information relating to the terms and conditions for the issuance of the Parity Obligations, see "APPENDIX D-Definitions of Certain Terms" and "APPENDIX E-Summary of Principal Legal Documents.")

Subordinated Obligations

The City may issue and incur Subordinated Obligations which are payable from Net System Revenues on a basis subordinate to the payment by the City of the Installment Payments so long as no Event of Default has occurred and is continuing and no event of default or Termination Event under any Qualified Swap Agreement has occurred and is continuing.

BOND INSURANCE

The following information has been furnished by AMBAC Indemnity Corporation ("AMBAC Indemnity") for use in this Official Statement. AMBAC Indemnity will issue an insurance policy for the hereinafter defined Insured Series 1993 Bonds. Reference is made to Appendix G for a specimen of such policy.

Payment Pursuant to Municipal Bond Insurance Policy

AMBAC Indemnity has made a commitment to issue a municipal bond insurance policy (the "Municipal Bond Insurance Policy") relating to the Series 1993 Bonds maturing in the years 1997 to 2013 (the "Insured Series 1993 Bonds") effective as of the date of issuance of the Insured Series 1993 Bonds. Under the terms of the Municipal Bond Insurance Policy, AMBAC Indemnity will pay to the United States Trust Company of New York, in New York, New York or any successor thereto (the "Insurance Trustee") that portion of the principal of and interest on the Insured Series 1993 Bonds which shall become Due for Payment but shall be unpaid by reason of Nonpayment by the Authority. AMBAC Indemnity will make such payments to the Insurance Trustee on the later of the date on which such principal and interest becomes Due for Payment or within one business day following the date on which AMBAC Indemnity shall have received notice of Nonpayment from the Trustee. The insurance will extend for the term of the Insured Series 1993 Bonds and, once issued, cannot be canceled by AMBAC Indemnity.

The Municipal Bond Insurance Policy will insure payment only on stated maturity dates and on mandatory sinking fund installment dates, in the case of principal, and on stated dates for payment, in the case of interest. If the Insured Series 1993 Bonds become subject to mandatory redemption and insufficient funds are available for redemption of all outstanding Insured Series 1993 Bonds, AMBAC Indemnity will remain obligated to pay principal of and interest on outstanding Insured Series 1993 Bonds on the originally scheduled interest and principal payment dates including mandatory sinking fund redemption dates. In the event of any acceleration of the principal of the Insured Series 1993 Bonds, the insured payments will be made at such times and in such amounts as would have been made had there not been an acceleration.

In the event the Trustee has notice that any payment of principal of or interest on an Insured Series 1993 Bond which has become Due for Payment and which is made to an Insured Series 1993 Bondholder by or on behalf of the Authority has been deemed a preferential transfer and theretofore recovered from its registered owner pursuant to the United States Bankruptcy Code in accordance with a final, nonappealable order of a court of competent jurisdiction, such registered owner will be entitled to payment from AMBAC Indemnity to the extent of such recovery if sufficient funds are not otherwise available.

The Municipal Bond Insurance Policy does not insure any risk other than Nonpayment, as defined in the Municipal Bond Insurance Policy. Specifically, the Municipal Bond Insurance Policy does not cover:

1. payment on acceleration, as a result of a call for redemption (other than mandatory sinking fund redemption) or as a result of any other advancement of maturity.

2. payment of any redemption, prepayment or acceleration premium.

3. nonpayment of principal or interest caused by the insolvency or negligence of any Trustee or Paying Agent.

If it becomes necessary to call upon the Municipal Bond Insurance Policy, payment of principal requires surrender of Insured Series 1993 Bonds to the Insurance Trustee together with an appropriate instrument of assignment so as to permit ownership of such Bonds to be registered in the name of AMBAC Indemnity to the

extent of the payment under the Municipal Bond Insurance Policy. Payment of interest pursuant to the Municipal Bond Insurance Policy requires proof of Insured Series 1993 Bondholder entitlement to interest payments and an appropriate assignment of the Insured Series 1993 Bondholder's right to payment to AMBAC Indemnity.

Upon payment of the insurance benefits, AMBAC Indemnity will become the owner of the Insured Series 1993 Bond or right to payment of principal or interest on such Bond and will be fully subrogated to the surrendering Insured Series 1993 Bondholder's rights to payment.

In the event that AMBAC Indemnity were to become insolvent, any claims arising under the Municipal Bond Insurance Policy would be excluded from coverage by the California Insurance Guaranty Association, established pursuant to the laws of the State of California.

AMBAC Indemnity Corporation

AMBAC Indemnity is a Wisconsin-domiciled stock insurance corporation regulated by the Office of the Commissioner of Insurance of the State of Wisconsin and licensed to do business in 50 states, the District of Columbia, and the Commonwealth of Puerto Rico, with admitted assets of approximately $1,884,000,000 (unaudited) and statutory capital of approximately $1,038,000,000 (unaudited) as of June 30, 1993. Statutory capital consists of AMBAC Indemnity's policyholders' surplus and statutory contingency reserve. AMBAC Indemnity is a wholly owned subsidiary of AMBAC Inc., a 100% publicly-held company. Moody's Investors Service, Inc. and Standard & Poor's Corporation have both assigned a triple-A claims-paying ability rating to AMBAC Indemnity.

Copies of AMBAC Indemnity's financial statements prepared in accordance with statutory accounting standards are available from AMBAC Indemnity. The address of AMBAC Indemnity's administrative offices and its telephone number are One State Street Plaza, 17th Floor, New York, New York, 10004 and (212) 668-0340.

AMBAC Indemnity has entered into pro rata reinsurance agreements under which a percentage of the insurance underwritten pursuant to certain municipal bond insurance programs of AMBAC Indemnity has been and will be assumed by a number of foreign and domestic unaffiliated reinsures.

AMBAC Indemnity has obtained a ruling from the Internal Revenue Service to the effect that the insuring of an obligation AMBAC Indemnity will not affect the treatment for federal income tax purposes of interest on such obligation and that insurance proceeds representing maturing interest paid by AMBAC Indemnity under policy provisions substantially identical to those contained in its municipal bond insurance policy shall be treated for federal income tax purposes in the same manner as if such payments were made by the issuer of the bonds.

AMBAC Indemnity makes no representation regarding the Series 1993 Bonds or the advisability of investing in the Series 1993 Bonds and makes no representation regarding, nor has it participated in the preparation of, the Official Statement other than the information supplied by AMBAC Indemnity and presented under the heading "BOND INSURANCE".

TRANSFER OF OWNERSHIP OF METROPOLITAN SYSTEM

The San Diego Area Wastewater Management District

The California legislature has created the District to provide wastewater treatment services on a regional basis. The legislation creating the District was an outgrowth of a consensus developed by representatives of the City, the hereinafter defined Participating Agencies and others to provide a regional approach to wastewater treatment. The City is a member agency of the District. Any member agency of the District, including the City, has the right to withdraw from the District by December 31, 1993, or the date of first issuance of debt by the District, whichever occurs first. The District is governed by a Board consisting of representatives of the City and other public entities.

One of the purposes of the District is to assume ownership and operation of the Metropolitan System. The City has retained the right to transfer ownership of the Metropolitan System to the District upon the assumption by the District of the City's obligations with respect to the Metropolitan System, including its obligation

to make Installment Payments. The City has made no determinations with respect to such right to transfer ownership to the District.

Installment Purchase Agreement Conditions For Transfer of Metropolitan System

Under the Installment Purchase Agreement, the City has retained the right to transfer ownership of the Metropolitan System, including amounts in the Sewer Revenue Fund attributable to the Metropolitan System, to the District or any other governmental agency whose primary purpose is to provide wastewater treatment and disposal service, provided such entity agrees to assume all Obligations the proceeds of which were used to acquire components which are part of the Metropolitan System and all other obligations relating to the Metropolitan System which are payable from Metropolitan System Revenues, Net Metropolitan System Revenues, System Revenues or Net System Revenues, including but not limited to salaries and benefits payable to employees who are to become employees of such entity, all accounts payable, Qualified Swap Agreements, Credit Provider Reimbursement Obligations and all other obligations with respect thereto such as capital improvement expenditure obligations and tort claims, and the obligation to pay fines, penalties or damages arising out of or relating to violation of federal, state or local laws or regulations which are applicable or purported to be applicable to the operation of the Metropolitan System and provided that the following conditions are met:

(i) There shall not have occurred and be continuing an Event of Default under the terms of the Installment Purchase Agreement, any other Issuing Instrument or Qualified Swap Agreement, or any Termination Event under any Qualified Swap Agreement;

(ii) There shall have been delivered to the Trustee an opinion of Bond Counsel to the effect that the proposed transfer will not have an adverse effect on the exclusion from gross income for federal income tax purposes of the interest component of Tax-Exempt Installment Payment Obligations;

(iii) The entity shall have obtained all necessary licenses, permits and consents from all governmental agencies or authorities having or asserting jurisdiction over the activities of the Metropolitan System;

(iv) An opinion of counsel to the effect that the Supplements referred to in (viii) below are valid, binding and enforceable;

(v) The City obtains or provides a certificate prepared by a Consultant showing that (a) the estimated Net Metropolitan System Revenues for the next 12 months following the date of transfer will be at least equal to 1.20 times the Maximum Annual Debt Service for all Outstanding Parity Obligations to be assumed by the transferee and (b) the estimated Net Municipal System Revenues for the next 12 months following the date of transfer will be at least equal to 1.20 times the Maximum Annual Debt Service for all Outstanding Parity Obligations not to be assumed by the transferee;

(vi) There shall be delivered to the Trustee a notice of each of the Rating Agencies then providing ratings on any Obligations to be outstanding immediately after the transfer, reconfirming the ratings on all such Obligations in effect immediately prior to such transfer, or alternatively all such Obligations shall be defeased or paid in full prior to such transfer;

(vii) There shall be delivered to each Owner notice of the intended transfer of the Metropolitan System Components not less than 30 nor more than 60 days prior to the expected transfer date; and

(viii) (a) The transferee shall execute and deliver to the Trustee a Supplement which shall contain, among other things, the assumption and indemnification by the transferee of all obligations of the City under the Installment Purchase Agreement, but only as they relate to the Metropolitan System, including Obligations the proceeds of which were used to acquire components for the Metropolitan System, and the assumption of certain other provisions of the Installment Purchase Agreement and (b) the City shall execute and deliver a Supplement reaffirming its obligations under the Installment Purchase Agreement as to the Municipal System.

Upon any such transfer of the Metropolitan System, the City shall be relieved and discharged from any and all obligations payable from Net Metropolitan System Revenues, including the Installment Payments relating to the

Series 1993 Bonds. Upon any such transfer of the Metropolitan System, the Wastewater System shall mean the Municipal System with respect to the City and the Metropolitan System with respect to such transferee.

The San Diego Area Wastewater Management District Legislation

The enabling legislation relating to the District was introduced in the State legislature in February 1991 (Senate Bill No. 1225), approved in 1992, and became effective on January 1, 1993. The enabling legislation includes organizational provisions, defines District powers and purposes, and provides financing mechanisms. The legislation is summarized below:

Internal Organization. The District is a public agency and is governed by a Board of 17 directors. The member agencies of the District include the Cities of Chula Vista (which includes the Montgomery Sanitation District), Coronado, Del Mar, Imperial Beach, La Mesa, National City, Poway, and San Diego, the County of San Diego (which represents three county districts — Spring Valley, Wintergardens, Lakeside and Alpine), the Lemon Grove Sanitation District, the Otay Water District, the Padre Dam Municipal Water District and the San Diego County Water Authority. Three directors of the Board are appointed by the City, two by the City of Chula Vista, two by the County of San Diego and one each appointed by the remaining member agencies. The Board may make rules and regulations for its governance and procedure and may act only by ordinance, resolution or motion. Each Board member has one vote, except for the City's whose members each have two votes, on any motion, resolution or ordinance coming before the Board. A majority of the Board's membership is required to carry any action except in case of weighted voting when the City is permitted fifty percent (50%) of the vote; and when adopting an ordinance authorizing the issuance of revenue bonds, a two-thirds vote of the members of the Board is required. The general manager is appointed by the Board and is responsible for the business and property management of the District and its employees.

Powers. With regard to substantive powers, the District may, by contract, acquire rights or assets, and assume obligations for the development or operation of sewage treatment and related facilities by any member agency. Examples of such an assumption of obligation include bonds, notes, installment purchase contracts and lease obligations incurred by any member agency to finance rights or assets to be acquired by the District from the member agency. The District may approve any such contract by resolution of the Board with no other action being required.

Additionally, the District is empowered to take by grant, purchase, gift, devise or lease and to dispose of real and personal property of every kind, within or outside the District. The District may also exercise the right of eminent domain subject to the prior consent of the public entity in whose jurisdiction the property lies. The District may acquire, operate and construct wastewater collection, treatment and disposal works as well as process, sell and transport reclaimed water, sludge and other wastewater by-products.

Bonds and Indebtedness. The District may issue general obligation bonds (subject to two-thirds voter approval) payable from *ad valorem* taxes assessed against real property, as well as revenue bonds (subject to majority voter approval) and refunding bonds. The District may also apply for and accept grants and loans from the state and federal government. The District may also enter into installment sale agreements similar to the Installment Purchase Agreement, with the Authority or similar entities to secure debt of such entities.

Taxes and Fees. With regard to fees, the Board may, by ordinance, fix and impose rates, fees and charges for the use of any facilities owned or operated or services furnished by the District. Different rates, fees and charges for the different classes or conditions of services may be established.

The Board may also, by ordinance, establish a sewer standby availability charge on land within the boundaries of the District to which sewer services are made available by the District whether the service is actually used or not. A description of each parcel of land within the District upon which such a charge is to be levied and collected will be provided by the District to the San Diego County Board of Supervisors and the County Auditor. The amount of the charge may be added to the assessment roll.

The Board may also determine the amount necessary to be raised by taxation to pay the interest on general obligation bonds, if and when such bonds are authorized by a public vote and issued by the District, for that year

as well as the portion of the principal becoming due. The Board would then fix the rate or rates of tax to be levied which will support its *ad valorem* tax debt obligation.

THE AUTHORITY

The Authority was established pursuant to a Joint Exercise of Powers Agreement, dated May 14, 1991, by and between the City and the Redevelopment Agency of the City. The Authority is intended as a financing vehicle for City facilities and projects. The Series 1993 Bonds will be the first issuance of indebtedness by the Authority.

WASTEWATER SYSTEM

Wastewater System Management

The Wastewater System is managed by the City of San Diego Water Utilities Department (the "Department") which is one of the largest departments within the City. For the year ending June 30, 1994, the Department has 1,488 positions and a $634 million budget. The Department is charged with the responsibility for operating and maintaining both the water and sewerage systems.

The Department operates the Wastewater System with funds derived primarily from service charges which are deposited in the Sewer Revenue Fund, and are used for the operation, maintenance and capital improvement of the Municipal System and the Metropolitan System.

The Department's organization has centralized administrative, engineering and customer service functions which support the water system and the Wastewater System. The Department has six operating divisions: the Water Production Division, the Systems Division, the Services Division, the Engineering Division, the Metropolitan Wastewater Division and the Technical Services Division. The Department's Metropolitan Wastewater Division manages, operates and maintains the Metropolitan System. The Metropolitan Wastewater Division receives support from other divisions within the Department as well as other City departments.

The Department's employees are deployed in both dedicated and combined work forces for the maintenance and operation of the water and sewerage systems. The year ending June 30, 1994 budget allocates approximately 52 percent of the total Department work force to the maintenance, operation and planning of the Municipal System and Metropolitan System.

The Department's budget for the year ending June 30, 1994 for sewer related expenditures, including the Metropolitan System related costs, is $469 million, or approximately 70 percent of the Department's budget. For the year ending June 30, 1994 the budget for the Metropolitan Wastewater Division is $76 million.

The Wastewater System

The Wastewater System consists of the Municipal System, which is a municipal collection system for the City's residents, and the Metropolitan System, which is a regional collection, treatment and disposal system initiated in 1958 (and operational since 1963) to serve the City and various other public agencies including cities situated within common drainage areas. The Metropolitan System was designed to provide sufficient capacity to accommodate a regional population of 2,600,000. The Metropolitan System, as presently designed, provides advanced primary treatment. The City, as operator of the Metropolitan System, is the holder of the National Pollutant Discharge Elimination System ("NPDES") permit and is responsible for maintaining the discharge requirements dictated under Federal law.

The map which follows the Table of Contents of this Official Statement shows the sewer service area boundaries of the Wastewater System covering approximately 450 square miles, including most of the City.

Municipal System

The Municipal System is comprised of 2,450 miles of trunk and collector mains, 88 sewer pump stations and 18 storm water pump stations serving in excess of 243,000 customer accounts. On average, these accounts (of which some 80% are single-family dwellings, 12% multi-family dwellings, and the remaining 8% commercial and industrial customers) generate 131 million gallons per day ("mgd") of wastewater which is conveyed by the Municipal System to the Metropolitan System for treatment and disposal.

Metropolitan System Facilities

The current Metropolitan System infrastructure, with the exception of the South Branch interceptor, is located within the jurisdictional boundaries of the City of San Diego and is concentrated along a kidney shaped corridor running from Mission Bay to the north, and along the perimeter of the San Diego Bay to the south. The map on the inside front cover shows the geographic concentration of the Metropolitan System's infrastructure and identifies the major trunk lines which service the Participating Agencies.

The Metropolitan System's infrastructure consists of force mains and gravity flow interceptors, two pump stations, one main wastewater treatment plant, an ocean outfall, and a sludge drying facility. A brief description of the current facilities and their primary functions is provided below.

Interceptors. The Metropolitan System interceptors consist of two major branches, the South Branch and the North Branch, which meet at Pump Station No. 2. Interceptor capacities are normally adequate for current peak flow, but in the near future some interceptor sections may be subject to peak flows that exceed design capacities. A portion of the hereinafter defined Consumers' Alternative incorporates facilities to accommodate such peak flows.

Pump Stations. The two pump stations began operation in 1963. The pumping facilities are in good condition, and all structures, including wet wells, are expected to last at least another 25 years. No major modifications or improvements are anticipated except for installation of additional new pumps and motors and overhauls of existing pumps and motors, as needed.

Point Loma Wastewater Treatment Plant. The Point Loma Wastewater Treatment Plant (the "Point Loma Plant") began operation in 1963. The site is part of the Fort Rosecrans military reservation and was acquired by the City from the U.S. Department of the Interior, Bureau of Land Management. From 1963 to 1985, the Point Loma Plant functioned as a primary treatment plant; simple gravity separation was used to reduce suspended solids levels by 60 percent prior to ocean discharge. In 1985, the Point Loma Plant was equipped to use chemical coagulants to achieve 75 percent suspended solids removal.

The wastewater treatment process currently employed at the Point Loma Plant includes mechanical screening, by which raw wastewater flows into the Point Loma Plant through five 15 millimeter mesh; mechanically self-cleaning traveling screens; addition of chemical coagulants to enhance settling to achieve at least 75 percent removal of suspended solids; sedimentation; and sludge digestion. A digester gas utilization facility and hydroelectric generation facility are also a part of the Point Loma Plant. Dewatering and disposal of sludge are provided off site.

Several capital improvement projects have been completed at the Point Loma Plant to rehabilitate, modify and expand various components, and additional capital improvements are planned. Pending capital improvements include construction of two new sedimentation basins for a total of twelve basins, construction of a new influent channel to all of the sedimentation basins, replacement of covers for two of the six digesters, and restoration of the ocean outfall intake structure. (See "WASTEWATER SYSTEM CAPITAL IMPROVEMENT PROGRAM" herein.)

Point Loma Plant Ocean Outfall. The Point Loma Plant ocean outfall was constructed in 1963 to provide a method for disposal of all plant effluent. The capacity of the 11,316-foot long, 108-inch diameter outfall has been estimated at 390 mgd under the present design configuration. The outfall suffered a rupture on February 2, 1992 that displaced joints in approximately 500 feet of pipe located 3,150 feet offshore in 35-foot water depth. Repairs have been effected by replacing the damaged sections with new 108-inch diameter reinforced concrete pipe sections. In addition to replacing the damaged sections, the City has reinforced the remaining sections of undamaged pipe with additional armor rock protection. As part of the hereinafter defined Consumers' Alternative, the City

commenced construction in 1992 of a 12,500-foot extension of the existing pipeline. Additionally, the City has been making preparations to replace the existing 11,316-foot outfall pipe with a new parallel tunnel outfall. This parallel tunnel outfall is expected to be completed by October 1998. (See "WASTEWATER SYSTEM CAPITAL IMPROVEMENT PROGRAM - Capital Improvement Projects" herein.)

Fiesta Island Sludge Drying Facilities. Fiesta Island, approximately 130 acres in Mission Bay, is currently utilized by the City for air drying of sewage sludge. Since 1963 digested liquid sludge at 3% solids has been pumped from the Point Loma Plant through an 8 mile pipeline to Fiesta Island. At the facility, solar energy dries the liquid sludge in open sand drying beds. When the sludge solids content reaches 50%, the dried sludge is harvested and transported off-site to a contracted composing facility. This represents 100% beneficial reuse of the high quality sludge produced by the Point Loma Plant. The California Coastal Commission has directed that the City vacate the sludge processing facilities from Fiesta Island since the use of the island for sludge processing has been determined to be incompatible with the intended recreational use of this coastal parkland. The City intends to replace the sludge open air drying operations with enclosed mechanical dewatering and heat-drying processes to be located in the vicinity of the Miramar Naval Air Station. (See "WASTEWATER SYSTEM CAPITAL IMPROVEMENT PROGRAM - Capital Improvement Projects" herein)

Escondido Wastewater Treatment Plant. In 1972, the City entered into a sewage disposal agreement with the City of Escondido, whereby up to 5 mgd of sewage emanating from the Rancho Bernardo sewer service area of the City of San Diego, may be treated at Escondido's Hale Avenue treatment plant. This agreement runs for 50 years, and at the City's option may be extended for an unlimited number of ten year periods. The Escondido Wastewater Treatment Plant is not owned by the City.

Table 2 below shows total annual system flow through the Point Loma Plant and Escondido Plant.

Table 2

TOTAL ANNUAL WASTEWATER SYSTEM FLOW IN MILLION GALLONS

Year Ended June 30	City Flow through Point Loma Plant	Participating Agency Flow through Point Loma Plant	City Flow through Escondido Plant	Total System Flow
1965	16,440	6,703	420	23,563
1970	19,950	9,658	709	30,317
1975	26,125	13,269	562	36,739
1980	36,708	17,572	944	55,224
1981	38,689	17,410	1,073	57,171
1982	39,591	17,813	992	58,396
1983	40,798	18,530	933	60,260
1984	40,950	19,439	1,210	61,600
1985	39,397	20,246	1,218	60,861
1986	41,296	20,825	1,210	63,331
1987	42,082	21,608	1,270	64,960
1988	44,413	22,133	1,317	67,862
1989	45,460	21,492	1,426	68,377
1990	48,628	20,836	1,405	70,868
1991	45,602	19,218	1,365	66,185
1992	46,030	18,115	1,177	65,322
1993	48,680	20,092	1,318	70,090

Source: Water Utilities Department

For the year ended June 30, 1993, the Metropolitan System, on a daily basis treated and disposed of more than an estimated 188 million gallons of sewage generated by approximately 1.7 million residents and businesses within the Metropolitan System service area.

The Participating Agencies and Sewage Disposal Agreements and Other Agreements

The Metropolitan System provides "wholesale" treatment services, including some sewage transport, treatment and disposal operations to other cities and districts pursuant to Sewage Disposal Agreements with such entities (the "Sewage Disposal Agreements"). The Cities of Chula Vista, Coronado, El Cajon, Imperial Beach, La Mesa and National City, and the Lemon Grove Sanitation District, the Montgomery Sanitation District and the Spring Valley Sanitation District (the "Original Participating Agencies") entered into the Sewage Disposal Agreements in 1960. Subsequent to that time the City entered into Sewage Disposal Agreements with the Cities of Del Mar and Poway and the Lakeside-Alpine Sanitation District, the Otay Water District, the Padre Dam Municipal Water District and the Wintergardens Sewer Maintenance District (such entities herein referred to as the "Later Participating Agencies"). The Original Participating Agencies and the Later Participating Agencies are collectively referred to as the "Participating Agencies". The Participating Agencies and the City are responsible for the "retail" collection operations within their respective jurisdictions. The Participating Agencies also transport collected sewage through large trunk lines to the Metropolitan System. The collection systems and many of the transport trunk lines are owned by the individual Participating Agencies.

Each Participating Agency is responsible for transporting raw sewage to the Metropolitan System for treatment and disposal. The operational and administrative responsibilities and obligations of the City and each Participating Agency are defined in the Sewage Disposal Agreements. Under the terms of the respective Sewage Disposal Agreements, each Participating Agency pays an Annual Capacity Charge which relates to their respective shares of the capacity allocated in the Metropolitan System which is amortized over a 40 year term. In addition to the payment of the Annual Capacity Charge, the Participating Agencies pay for their proportionate share of the maintenance and operation expense of the Metropolitan System. Each Participating Agency pays an amount equal to that proportion of the total maintenance and operation expense which the actual amount of sewage received from the Participating Agency bears to the total quantity of sewage treated and disposed of by the Metropolitan System. Presently, the maintenance and operation costs are recovered on the basis of flows without consideration of strength of discharge.

The Sewage Disposal Agreements provide that all repairs, reconstruction and replacement to the Metropolitan System are part of the maintenance costs allocated to the Participating Agencies. The Sewage Disposal Agreements also provide that the conveyance, treatment and disposal of all sewage received into the Metropolitan System must comply with all applicable laws, rules and regulations. The Sewage Disposal Agreements with certain of the Later Participating Agencies, the City of Poway, the Lakeside/Alpine Sanitation District, the Padre Dam Municipal Water District and the Wintergardens Sewer Maintenance District, require such later Participating Agencies to pay their proportionate share of the cost of expanding the Point Loma Plant to its design capacity of 234 mgd of advanced primary treatment. The remaining Participating Agencies are not required to pay the costs of such expansion. None of the Participating Agencies are required under their respective Sewage Disposal Agreements to pay the capital costs of any of the reclamation plants.

The City Attorney is of the opinion that the sludge disposal facilities involved in the Fiesta Island Replacement Project constitute repairs and replacement of the Metropolitan System and a portion of these costs therefore may be charged to the Participating Agencies. The City Attorney is also of the opinion that the costs associated with the Point Loma Plant outfall extension and compliance of the Point Loma Plant with secondary treatment standards are administrative, maintenance and operation costs associated with compliance with state and federal laws, rules and regulations, and therefore are properly allocable to the Participating Agencies.

Three Participating Agencies, the Cities of Chula Vista, El Cajon and Imperial Beach (which constitute 11.6% of total flow for the year ended June 30, 1993), currently are paying under protest certain administrative, maintenance, and operation charges billed to them by the City. In particular, they have contested costs associated with the Point Loma Plant outfall extension and compliance at the Point Loma Plant with secondary treatment standards, as well as costs associated with the Fiesta Island Replacement Project. In the opinion of the San Diego City Attorney, however, the Participating Agencies' contested charges are legally due and payable to the City pursuant to their Sewage Disposal Agreements. To date, the three Participating Agencies have not elected to

arbitrate the contested charges pursuant to the provisions of the Sewage Disposal Agreements, and have continued to make their scheduled payments under protest.

Key provisions of the Sewage Disposal Agreements include:

Term of Capacity Service. The Sewage Disposal Agreements expire on August 31, 2003 for the Original Participating Agencies, and June 30, 2003 for the Later Participating Agencies. The respective Participating Agencies have the option to extend their respective Sewage Disposal Agreements for an additional 10 year term. Total contracted capacity under all Sewage Disposal Agreements aggregates 82 mgd.

Limitations on the Type and Condition of Sewage. Participating Agencies must meet discharge standards established by State and Federal statutes and City Ordinances. Enforcement responsibilities, however, are not specified.

Administration, Maintenance, and Operation. The City has responsibility for operating, maintaining and managing the Metropolitan System.

Maintenance and Operation Costs. Maintenance and operation costs are allocated between the City and the Participating Agencies based on flow and are payable quarterly.

Annual Capacity Charge. Participating Agencies are also allocated capital improvement and debt service costs based on the actual capital cost initially incurred by the City to construct the Metropolitan System, including all financing costs, amortized over the financing term. These payments are made annually in one installment.

New Construction. The City can propose additions or modifications to the existing Metropolitan System. Participating Agencies which use the new facilities must negotiate changes in charges or will be assessed a predetermined rental fee plus a proportionate share of operation and maintenance expenses.

Option to Extend. Each Participating Agency may, at its option, unilaterally extend the current service agreement for a period of ten years without the consent of the City.

Reclamation of Water. The City has the exclusive right to reclaim water at its own expense. Any reclaimed water will be the property of the City. The capital and operating costs of reclamation are solely of the City.

The City has also entered into sewage transportation agreements with several Participating Agencies. These sewage transportation agreements established the terms and conditions for sewage transportation from Participating Agency collections systems to the Metropolitan System through City owned trunk lines. These trunk lines are within the City's municipal sewage collection system and are not presently part of the Metropolitan System infrastructure. The agreements establish charges or rents for the conveyance of wastewater based on Participating Agency flow. Transportation agreements are separate and distinct from the Sewage Disposal Agreements.

Capacity rights may be added, assigned, or transferred by or among Participating Agencies with the approval of the City as owner of the Metropolitan System and holder of all reserve or residual capacity. New participants may join the Metropolitan System if approved by the City and after notification to the other Participating Agencies.

For the year ended June 30, 1993, out of a total annual estimated sewage flow of 68,772 million gallons, the total City flow through the Metropolitan System was 48,680 million gallons, or 71.0% of the total flow. This overall proportion of the flow from the City and from the Participating Agencies is expected to continue.

Participating Agencies in the Metropolitan System are listed in the following table, together with the estimated population, present capacity rights (in mgd), and the percentage of total capacity represented by the capacity rights. The communities and agencies served by the Wastewater System form the second largest integrated metropolitan area in the State surpassed only by the Los Angeles metropolitan area.

Table 3

METROPOLITAN SYSTEM
PARTICIPATING AGENCIES
Year Ended June 30, 1993

Participating Agencies	Estimated Population(1)	Capacity Rights (in mgd)	% of Total Capacity	Flow (mgd)[4]	% of Total Flow
City of Chula Vista[2]	129,937	19.20	8.20%	11.53	6.1
City of Coronado	25,599	3.00	1.28	2.29	1.2
City of Del Mar	5,503	0.80	0.34	0.71	0.4
City of El Cajon	87,418	10.00	4.28	8.14	4.3
City of Imperial Beach	26,805	3.50	1.50	2.29	1.2
City of La Mesa	55,500	6.30	2.69	4.77	2.5
City of National City	57,967	7.10	3.04	3.54	1.9
City of Poway	40,538	5.00	2.14	4.04	2.1
Lakeside-Alpine Sanitation District[3]	27,195	4.47	1.91	2.73	1.4
Lemon Grove Sanitation District	22,407	2.80	1.20	1.83	1.0
Otay Water District	12,443	1.20	0.51	0.48	0.2
Padre Dam Municipal Water District	93,987	6.22	2.66	4.39	2.3
Spring Valley Sanitation District	74,983	10.70	4.57	7.51	4.0
Wintergardens Sewer Maintenance District	8,621	1.21	0.52	0.80	0.4
SUBTOTAL:	668,903	81.50	34.84	55.05	29.0
City of San Diego	1,081,632	152.42	65.16	133.37	71.0
TOTAL:	1,750,535	233.92	100.00%	188.42	100.0%

(1) Estimated population for 1992.
(2) Includes Montgomery Sanitation District.
(3) A single meter serves the sanitation districts of Lakeside and Alpine.
(4) Not adjusted for flows between Participating Agencies.

Source: Water Utilities Department

Regulatory Requirements

The Wastewater System is subject to regulations imposed by the Clean Water Act, Public Law 92-500 (the "Clean Water Act"). The regulatory requirements are administered by the United States Environmental Protection Agency ("EPA") through the California State Water Resources Control Board ("SWRCB"). Regulations of these agencies deal primarily with the quality of effluent which may be discharged from the Point Loma Plant, the disposal of sludge generated by the Point Loma Plant, the discharge of pollutants into groundwater, and the nature of waste material (particularly industrial waste) discharged into the collection system. As a condition of having received federal EPA grant funds under the Clean Water Act for the planning and construction of various improvements at its Point Loma Plant, the City is subject to additional regulatory requirements. Among the grant-related requirements are guidelines which must be followed concerning planning methodologies, design criteria, construction activities, and the operation, maintenance and financing of facilities.

To comply with federally mandated effluent quality and disposal criteria, the City must operate its wastewater treatment facility according to discharge limitations and reporting requirements set forth in NPDES discharge permits. The NPDES permit for the Point Loma Plant was renewed on December 17, 1990 and has a five year life. While two provisions of the permit are being appealed to the SWRCB, all other conditions are being successfully met.

To comply with other federal regulations concerning the discharge of waste materials into the sewerage system, the City must administer and enforce industrial pretreatment limitation standards upon industrial users of the system. The City has had an industrial waste program in effect since the early 1970s. The City's industrial waste ordinance sets forth water quality standards that industrial users must meet and provides enforcement procedures for violators. The Industrial Waste Division of the Department is currently responsible for monitoring over 1,300 permitted industries located in the metropolitan service area. In addition, each Participating Agency is required to permit and monitor all industries within its respective service area. While each Participating Agency as a condition of its respective service contract is required to comply with quality standards set by the City, the City, at the urging of the EPA, is in the process of requiring separate pretreatment agreements with each Participating Agency to ensure industrial pretreatment requirements. All but four of the Participating Agencies have entered into such pretreatment agreements.

As a condition of its past receipt of federal grants, the City and the Participating Agencies must have approved user charge structures. Such user charge structures require the recovery of annual operation, maintenance and replacement costs from users of the system in a proportionate manner according to the customer's level of use. Such factors as volume, infiltration/inflow, delivery flow rate, and strength of sewage are to be considered for determining proportionate use. User fee rates for all retail users are reviewed annually and established at a level necessary to generate sufficient revenues to recover the annual operation, maintenance and replacement costs. User fee rates for all users are established to recognize the volume and strength characteristics of wastewater contributed to the system. The rate structure has been reviewed by the SWRCB and no grant funds or costs under grant funded programs have been disallowed based on the nature of the rate structures.

In addition to federal requirements, the City must also comply with State requirements for effluent concentration which are generally more stringent than federal limitations. The primary State law concerned with control of water quality is the Porter-Cologne Water Quality Control Act of 1969, as amended. The Porter-Cologne Act directly addresses the problem of water reclamation and reuse. A declared policy of the law is that the people of the State have a primary interest in the development of facilities to reclaim wastewater to supplement existing surface and underground water supplies in order to meet their water requirements. The legislative intent was to undertake all possible development of water reclamation facilities to make reclaimed water available for use. The law requires the State Department of Health Services to establish statewide reclamation criteria for each type of use where such use involves public health.

On September 3, 1993, the Executive Officer of the California Regional Water Quality Control Board ("Board") filed two (2) complaints for administrative civil liability against the City with the Board. The first complaint generally alleged that the City improperly discharged pollutants to surface waters, failed to notify and submit written reports to the Board of alleged sewage spills and inaccurately reported the estimated volume of sewage discharged during such alleged spills. On September 27, 1993, the Board heard the matter involving the alleged discharges and, in accordance with the recommendation of the Executive Officer, imposed civil damages in the amount of $830,000. (In the opinion of the City Attorney, the amount of civil damages imposed is the maximum amount allowed by law.) In addition, the Board, on a 6-to-1 vote, referred the matter to the San Diego County District Attorney for investigation as to whether or not there was any intentional wrongdoing in connection with the filing of spill reports. The City has not determined whether it will appeal the Board's order.

The second complaint alleges that since 1987 the City has violated the effluent limitation standard at the Point Loma Wastewater Treatment Plant. The Executive Officer has proposed to the Board that it impose civil damages of $5 million, with $2.5 million suspended. The hearing on this second complaint, originally set for September 27, 1993, has been continued to October 25, 1993.

The Clean Water Act

In 1972, Congress enacted the Clean Water Act, which among other things, directed the EPA to monitor and to regulate the discharge of pollution into navigable water ways and to enforce the requirement that all wastewater treatment plants in the nation provide full secondary treatment. On December 27, 1977, Congress amended the Clean Water Act to allow waivers of secondary treatment standards for certain ocean dischargers.

City Action

On September 20, 1978, the City submitted an initial waiver application based on the EPA's proposed treatment regulations. Subsequently the City discontinued its waiver application and commenced a plan of action to comply with the secondary treatment requirements of the Clean Water Act. In October 1989, a program for full secondary treatment and water reclamation (said program is herein referred to as "Alternative IVa") was approved by the City.

On April 21, 1992, the City Council decided not to approve the City Manager's recommendations concerning a financing plan to support the projects required by Alternative IVa. On April 27, 1992, the City Manager was directed to provide a revised program which has come to be known as the Consumers' Alternative. The Council's decision to modify Alternative IVa was based on a decrease in sewer revenues from reduced building activity, the economic recession, anticipated changes in growth and wastewater flows and the desire to retain the Point Loma Plant as an advanced primary facility. On May 26, 1992, the City Council approved the Consumers' Alternative. (For information relating to the Consumers' Alternative, see "WASTEWATER SYSTEM CAPITAL IMPROVEMENT PROGRAM-Capital Improvement Projects" herein.)

Litigation and Proposed Consent Decree

On July 1, 1988, the United States of America, acting through the United States Department of Justice and the EPA and the State of California as its local enforcement authority, filed an action in the United States District Court for the Southern District of California (the "Federal Court"). The lawsuit (*U.S.A. v. City of San Diego,* Case No. 88-1101-B) sought injunctive relief and monetary damages for alleged effluent limit violations, past sewer spills and pretreatment violations. The lawsuit was bifurcated into a penalty proceeding and a remedies proceeding.

As to the penalty proceeding, the Federal Court found the City in violation of the Clean Water Act as a result of deficiencies in its pretreatment program (control of industrial users), frequent spills from the collection system, and the absence of secondary treatment. Evaluating all the factors considered in imposing penalties, the Federal Court imposed a penalty of $3 million: $500,000 payable to the U.S. Treasury on entry of judgment, with satisfaction of the remaining $2.5 million by means of an optional credit project which would require enactment of an ordinance requiring water conservation fixtures on all new construction, resales and remodels of buildings combined with a $500,000 rebate program for five years. Failure to fund the rebate program would require payment of $2.5 million to the U.S. Treasury.

This order on penalties has been fully satisfied with the City paying the $500,000 monetary fine and satisfying the optional $2.5 million credit project by enacting ordinances which require the installation of water conserving plumbing fixtures in all new construction or upon property transfer or remodeling, respectively. To date, no party has filed any action challenging the satisfaction of the penalty order. The City is no longer liable for any penalties beyond the $500,000 previously satisfied.

The injunctive relief aspect of the case was conditionally settled by a proposed Consent Decree that set forth facilities and improvement programs to resolve alleged deficiencies in the Municipal System and the Metropolitan System. All new construction and improvements listed in the proposed Consent Decree were purportedly required to fulfill the City's legal obligation of increased treatment under the Clean Water Act.

The proposed Consent Decree also required some improvements affecting only the Municipal System. Since such projects deal only with the Municipal System, such projects were considered Municipal System projects as compared to the Metropolitan System projects affecting the entire collection area.

The proposed Consent Decree also required increased activity in the regulation of pretreatment of industrial waste. The increased activity required, however, dealt with permit issuance and manner of permit enforcement.

The proposed Consent Decree resolving the remedial aspect of the case was approved by the City Council in January 1990 and lodged in the Federal Court on January 30, 1990. Subsequently, following extended hearings, the Federal Court entered an order on the amount of damages and ordered deferral of entry of the proposed Consent Decree.

sludge process with anoxic selectors; tertiary filtration; and effluent disinfection using chlorine gas and two pass chlorine contact tanks. Support facilities include an administration building, operation and maintenance building, chlorination building and chemical building. The capacity of the facility of 30 mgd is to be achieved by 1997.

Preliminary Design Costs. Prior to the adoption of the Consumers' Alternative, design and planning work was prepared on Alternative IVa. Preliminary costs for some of these components which are comprised of reclamation plants and secondary upgrade, are included in Phase I of the Consumers' Alternative.

Point Loma Plant Upgrade. Under the Consumers' Alternative an ultimate capacity of 240 mgd annual daily flow at the Point Loma Plant is envisioned, using the chemically assisted advanced primary treatment process. Ongoing full scale testing at the Point Loma Plant will define optimum chemical usage. Sludge digestion will be performed on-site with digested sludge being conveyed to the Northern Sludge Processing Facility for dewatering. Expansion of the Point Loma Plant will be implemented through construction of a series of projects that would not significantly disrupt wastewater flow during the construction period. Construction of the pumping station would be completed concurrent with the Northern Sludge Processing Facility in 1997.

Mission Valley Water Reclamation Plant. Phase I of the Consumers' Alternative includes only the preliminary costs of this facility which is expected to provide reclaimed water to the lower San Diego River (Mission Valley) service area. Process units are expected to include preliminary treatment by mechanically cleaned bar screens; grit removal in aerated grit tanks; primary treatment in rectangular sedimentation tanks; secondary treatment by the activated sludge process with anoxic selectors; tertiary filtration; and effluent disinfection using chlorine gas and two pass chlorine contact tanks. Support facilities are expected to include an administration building, maintenance building, chlorination building, chemical building and electrical building. An initial capacity of 7.5 mgd would be achieved in 2020 based on the current projection of wastewater flows.

Otay Valley Water Reclamation Plant. Phase I of the Consumers' Alternative includes only the preliminary costs of this facility which is expected to include preliminary treatment by mechanically cleaned bar screens; grit removal in aerated grit tanks; primary treatment in rectangular sedimentation tanks; flow equalization following primary settling; secondary treatment by the activated sludge process with anoxic selectors; tertiary filtration; and effluent disinfection using chlorine gas and two pass chlorine contact tanks. The initial capacity would be 6 mgd achieved in 2025.

Municipal System Improvements. The rehabilitation and expansion of the Municipal System infrastructure is included in the capital improvement program. Projects include the replacement of deteriorated concrete sewer collector lines, rehabilitation of sewer pumping stations and construction of new interceptor lines and pump stations.

Capital Improvement Financing Plan

The projected capital improvement program for both the Municipal System and the Metropolitan System is a combination of pay-as-you-go financing and debt financing. Table 5 summarizes the sources and uses of funds for the capital improvement program for the years ending June 30, 1994 through June 30, 2003. The projected capital improvement program includes the Phase I costs of the Consumers' Alternative. If the City is obligated to construct the facilities included in Alternative IVa, the capital costs of the capital improvement program could be substantially increased. (See "WASTEWATER SYSTEM -- Alternative IVa and The Consumers Alternative", herein).

Table 5

SOURCES AND USES OF FUNDS
WASTEWATER SYSTEM CAPITAL IMPROVEMENT PROGRAM
(in thousands)

Fiscal Year Ending June 30	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
Beginning Balance	$193,057	$277,643	$301,396	$291,909	$278,766	$231,793	$248,479	$277,396	$274,143	$282,958	
Plus:											
Net Income after Debt Service[1]	67,863	91,572	103,089	110,929	111,806	107,358	117,029	84,545	70,488	62,974	$ 927,653
Net Bond Proceeds	237,482	103,917	249,701	301,686	52,353	0	0	0	0	0	$ 945,139
Grant Receipts	30,120	20,871	19,262	5	0	0	0	0	0	0	$ 70,258
Contributions in Aid	1,004	0	0	0	0	0	0	0	0	0	$ 1,004
Total Available for Capital Improvement Program	529,526	494,003	673,448	704,529	442,925	339,151	365,508	361,941	344,631	345,932	$4,601,594
Municipal System	67,000	37,119	52,139	54,528	40,345	59,441	57,869	51,306	56,864	62,683	$ 539,284
Metropolitan System[2]:	184,883	155,488	329,400	371,235	170,787	31,231	30,243	36,492	4,809	1,035	$1,315,603
Capital Improvement Program Expenditures	251,883	192,607	381,539	425,763	211,132	90,672	88,112	87,798	61,673	63,718	$1,854,897
Ending Balance	$277,643	$301,396	$291,909	$278,766	$231,793	$248,479	$277,396	$274,143	$282,958	$282,214	

(1) Net of 1961 Bonds and 1966 Bonds Defeasance Costs, including interest income on bond proceeds.

(2) The Metropolitan System includes all costs associated with the Consumers' Alternative Phase 1. Figures presented exclude $153,148,000 in capital expenditures incurred prior to June 30, 1993, which when added to $1,854,897,000 in Capital Improvement Program expenditures for fiscal years ending 1994 through 2003 equals $2,008,004,000.

WASTEWATER SYSTEM FINANCIAL OPERATIONS

The City's primary sources of moneys deposited in the Sewer Revenue Fund are derived from sewer service charges to City residents and commercial enterprises, capacity charges on new construction within the City and revenues from the Participating Agencies pursuant to the Sewage Disposal Agreements.

Establishment, Calculation and Collection of Sewer Service Charges

Sewer service charges to City utility customers, which are collected with municipal water bills and enforceable by discontinuance of water service, have been collected by the City since 1956. Periodically, sewer service charges have been revised, the latest revision becoming effective July 1, 1993.

The City has dedicated personnel and resources to analyze rates and charges necessary to support the Wastewater System. The Rate Analysis Program, which reports directly to the City Manager, is responsible for collecting and collating revenue and expenditure data from key administrative, engineering, financial and budgetary data from City departments and determining the adequacy of current revenues and the need for future rate adjustments on a ten year projection.

The collection and validation of data culminates in the development of a "rate case" which is internally reviewed by key departmental staff who have expertise in auditing, budgeting, accounting, engineering, legal and project management. After such review has been completed, the matter is referred to the Deputy City Manager and department directors from the Auditor and Comptroller, Financial Management Department, City Attorney's Office and the Department who review the proposed rates and their assumptions, and provide the City Manager with recommendations to be taken forward to the City Council for consideration.

The City Council receives for its consideration, recommendations for adjustments to the rates and charges collected from existing and new system users. Typically a rate case will be presented in the spring to the Public Facilities and Recreation Committee, which is composed of five members of Council. After a public hearing to consider the Manager's recommendation and receiving public testimony, said Committee forwards the matter to Council for consideration. The City Council in a series of public hearings receives public testimony and considers other recommendations, after which, the matter is subject to a vote. Historically, the Council has been supportive of rate adjustments.

Sewer service charges are based on the characteristics of the wastewater discharged by a particular sewer user. The service charge is based not only on the volume of sewage discharged, but the composition, or suspended solids, within the sewage. Based on guidelines set forth by the SWRCB, annual revenue requirements are categorized as either flow or solids induced. A per unit cost associated with the treatment and transmission of sewage flow and a per unit cost associated with the treatment, transmission and disposal of the solids are determined based on the total amount of sewage flow and suspended solids. All sewer users are charged based upon the amount of flow and solids which they discharge into the Wastewater System. As sewage discharge is not metered, water sales are used to approximate the measurement of a customer's sewage flow. The expected amount of solids within a particular customer's sewage is based upon the type, or classification, of the user.

Single-family residential customers are billed based on the previous year's winter months' water usage and not on current water usage. The monthly service charge for this customer type is set on July 1 of each year based upon the customer's average water consumption during the previous winter months. Once set, the customer's monthly sewer charge is fixed until the next July 1. For the year ending June 30, 1994 the minimum charge is a base fee of $6.36 per month, and the maximum charge including the base fee is $27.86 per month.

The historical operating revenues by user class of the Sewer Revenue Fund for the years ended June 30, 1989-93, are set forth in Table 6 below.

Table 6

HISTORICAL OPERATING REVENUES BY USER CLASS[1]
Years Ended June 30, 1989-1993

Class	1989	1990	1991	1992	1993[2]
Revenues *(Thousand Dollars)*					
Single Family Domestic	$31,183	$38,158	$40,724	$44,120	$47,503
Other Domestic	21,595	26,225	30,785	30,476	32,813
Commercial	20,611	28,258	25,885	25,512	27,468
Industrial	5,440	7,933	7,438	6,953	7,486
Outside City	10	16	10	7	8
Participating Agencies[3]	12,321	15,819	15,541	25,304[4]	35,406[4]
TOTAL	$91,160	$116,409	$120,383	$132,372	$150,684

(1) Does not include capacity charges or fees or other operating revenues which are included in calculating Net System Revenues.
(2) Preliminary, subject to final audit.
(3) Certain Participating Agencies are making payments under protest. (See "WASTEWATER SYSTEM -The Participating Agencies" herein.)
(4) Reflects retroactive billings for costs of capital improvement program.
Source: Water Utilities Department

The single family residential rates resulting in the revenues shown in Table 6 above and the annual percentage increases necessary to produce such rates are shown on Table 7 below.

Table 7

CITY OF SAN DIEGO
HISTORY OF MONTHLY SEWER RATES
FOR SINGLE FAMILY RESIDENTIAL UNITS

Effective Date	Single Family Dwelling Unit	% Increase
July 1, 1988	$13.52	30.0%
July 17, 1989	17.12	26.6
July 1, 1990	18.15	6.0
July 1, 1991	19.24	6.0
July 1, 1992	20.39	6.0
July 1, 1993	21.61	6.0

Source: Water Utilities Department

The ten largest customers of the Wastewater System, as measured by the year ended June 30, 1993 billings, are estimated to account for approximately 9% of the Sewer Revenue Fund's total revenues for that fiscal year. Table 8 shows the year ended June 30, 1993 billings for such customers and the related percentages of total Sewer Fund Revenues.

Table 8

TEN LARGEST CUSTOMERS WITHIN SAN DIEGO[1]

For the Year Ended June 30, 1993

	Billings[2][3]	Percent of Total Sewer Fund Revenues
United States Navy	$8,095,060	4.74%
Kelco	4,067,408	2.38
University of California, San Diego	1,238,673	0.73
R.J. Donovan Prison	543,886	0.32
City of San Diego	533,906	0.31
San Diego Unified School District	501,771	0.29
SONY	277,321	0.16
Federal Government	262,872	0.15
County of San Diego	253,661	0.15
Convair Division of General Dynamics	247,680	0.15
TOTAL	$16,022,239	9.38%

(1) Does not include Participating Agencies or customers served by Participating Agencies.
(2) Total revenues include all revenues of the Wastewater System including Participating Agencies.
(3) Preliminary, subject to audit.

Source: Water Utilities Department

Collection and Calculation of Capacity Charges

Capacity charges are one time fees assessed on new development within the City when it connects to the Wastewater System. Capacity fees are not treated as operating income for financial reporting purposes but are considered System Revenues and are deposited in the Sewer Revenue Fund. Capacity fees are accounted for as contributions in aid of construction and pursuant to California law are applied only to capital expansion and bonds, contracts, or other indebtedness of the Wastewater System related to expansion. Because capacity fees are collected on new construction within the City, revenues obtained on such fees vary based upon construction activity. Historical capacity fee revenues and single family equivalents ("SFE") are shown in Table 9 below. Capacity Fees currently in force are shown in the last column of Table 10.

Table 9

SEWER REVENUE FUND
HISTORICAL CAPACITY CHARGE REVENUES

Year Ended June 30	Single Family Equivalents	Capacity Charge Revenues
1984	10,509	$ 7,084,501
1985	11,429	9,376,540
1986	15,460	15,093,242
1987	14,883	16,975,047
1988	6,830	10,736,525
1989	13,157	21,920,230
1990	6,489	22,252,058
1991	2,757	10,657,003
1992	2,762	12,385,388
1993[1]	2,019	10,498,807

(1) SFE and capacity charge revenues for the year ended June 30, 1993 are preliminary and are subject to final audit review.
Source: Water Utilities Department

City Council Actions Relating to Rate Increases

By a resolution, effective July 1, 1985, the City Council increased domestic single family dwelling unit sewer service charges from $7.00 to $8.00 per month. This resolution also increased commercial/industrial sewer service charges per hundred cubic feet of water delivered with a sliding scale of charges increasing approximately 13.7% in proportion to increase in average suspended solids concentration.

By a resolution, effective July 6, 1987, the City Council increased domestic single family dwelling unit sewer service charges from $8.00 to $10.40 per month through June 30, 1988, and from $10.40 to $13.52 effective July 1, 1988. Commercial/industrial sewer service charges also were increased by a charge per hundred cubic feet of water delivered in accordance with a sliding scale of charges increasing in proportion to an increase in average suspended solids concentration for the year ended June 30, 1988 and again for the year ended June 30, 1989. The minimum capacity charge per single family dwelling was increased to $1,483.

By a resolution, effective July 17, 1989, the City Council increased domestic single family dwelling unit sewer service charges from $13.52 to $17.12 per month. The commercial/industrial sewer service charges were also increased approximately 26.5% in accordance with a sliding scale of charges increasing in proportion to average suspended solids concentration. The minimum capacity charge per single family dwelling unit or its equivalent in the amount of $3,235 was established.

By a resolution, effective July 1, 1990, the City Council adopted a long range five year revenue plan which established rate increases of 6% per year for monthly sewer rates, and 16% per year for capacity charges. These rate adjustments reflect a change from a pay as you go system of financing to a combination of debt and cash in recognition of the major wastewater capital improvements that would be undertaken to meet the requirements of the Clean Water Act, and to provide additional Wastewater System capacity. The last scheduled increase is to take effect on July 1, 1994. These rate increases are set forth in Table 10 below. Based upon the City's current projections, additional rate increases will be required to adequately fund the Wastewater System capital improvement program after the year ending June 30, 1995. (See "Projected Operating Results" herein.)

Table 10

FIVE-YEAR RATE INCREASES APPROVED BY CITY COUNCIL ACTION ADOPTED JUNE 19, 1990

Effective Date	Single Family Dwelling Unit *(Monthly charge)*	Commercial & Industrial[1] *(Monthly charge)*	Sewer Capacity Charges *(Per Unit)*
July 1, 1990	$18.15	$0.32 plus Suspended Solids ("S") Charge of $1.044 to $2.126 per hundred cubic feet (Hcf)	$3,865
July 1, 1991	19.24	0.34 plus SS Charge of $1.107 to $2.254 per Hcf	4,484
July 1, 1992	20.39	0.36 plus SS Charge of $1.173 to $2,389 per Hcf	5,201
July 1, 1993	21.61[2]	0.38 plus SS Charge of $1.243 to $2.532 per Hcf	6,033
July 1, 1994[2]	22.91	0.40 plus SS Charge of $1.318 to $2.532 per Hcf	6,998

Source: Water Utilities Department

(1) Commercial and industrial monthly charges are based upon volume of flow and suspended solids. Charges range from the current base fee of $0.38 per month to several hundred thousand dollars.

(2) Sewer Service charges were converted from a flat monthly fee to a water consumption basis fee on July 1, 1993. The monthly charge is an average. Actual charges range from $6.36 to $27.86 per month.

Revenues from Participating Agencies

The Participating Agencies pay an annual capacity charge and a proportionate share of maintenance and operation costs pursuant to the Sewage Disposal Agreements. (See "WASTEWATER SYSTEM - The Participating Agencies and Sewage Disposal Agreements and Other Agreements" herein.) It should be noted, however, that the City has covenanted in the Installment Purchase Agreement to establish and maintain sewer service charges and other revenues sufficient to make Installment Payments. The City's obligation under the Installment Purchase Agreement exists irrespective of the amount or promptness of payments received from Participating Agencies. Thus, in the unlikely event of a long-standing delinquency or a refusal to make contract payments under a Sewage Disposal Agreement, the holders of the Series 1993 Bonds will be protected by the covenants and the obligations of the City to make all Installment Payments when due.

The average annual flow and billings over a five year period which have been assessed to the Participating Agencies is set forth in Table 11 below.

Table 11

FIVE YEAR AVERAGE ANNUAL REVENUES FROM PARTICIPATING AGENCIES
Years Ended June 30, 1989 to 1993

Agency	Flow[1]	Capacity Charge	Maintenance & Operations
City of Chula Vista	2,268	$194,176	$1,895,412
City of Coronado	783	25,613	699,522
City of Del Mar	266	20,408	228,027
City of El Cajon	2,907	108,277	2,624,104
City of Imperial Beach	925	33,138	829,390
City of La Mesa	1,817	62,334	1,522,256
City of National City	1,299	82,870	1,098,179
City of Poway	1,414	162,949	1,211,629
Lakeside-Alpine Sanitation District	983	139,531	853,388
Lemon Grove Sanitation District	698	22,872	582,746
Montgomery Sanitation District	1,340	24,019	1,107,848
Otay Water District	256	14,518	192,778
Padre Dam Municipal Water District	1,499	151,888	1,407,978
Spring Valley Sanitation District	3,158	105,400	2,598,870
Wintergardens Sewer Maintenance District	339	29,504	305,463
TOTAL	19,950	$1,177,497	$17,157,510

(1) Millions of gallons per year

Source: Water Utilities Department

Operations and Maintenance Expenses for Tijuana Effluent

For over fifty years the Tijuana River, which flows northward from Tijuana, Mexico into southern San Diego County in the United States, has been a vehicle for the intermittent transportation of raw sewage. On April 15,1991, the San Diego City Council adopted a resolution directing the City Manager to accept sewage from Tijuana, Mexico into the emergency connection of the Metropolitan System. Currently, the emergency connection has a capacity of 13 mgd. The City entered into an annual contract with the IBWC on July 22, 1991, with the condition that the IBWC seek funding from the U.S. Congress to reimburse the City for the use of the emergency connection at a rate of $600/mg in the year ended June 30, 1993 and in subsequent years at a rate based upon the rate charged to commercial customers. In the event the Congress does not provide sufficient appropriations for the treatment of the Tijuana sewage, the City may terminate the contract. In the year ended June 30, 1993 the Federal government appropriated $613,000 for the treatment of Tijuana sewage and the State of California provided the City with an additional $300,000 grant to be matched with City funds. In the year ended June 30, 1994, the rate to be charged to the IBWC will increase to $821/mg. The proposed Federal Fiscal Year 1994 budget includes $2.695 million for treatment of Tijuana sewage. Simultaneously the IBWC is planning the construction of a 25 mgd treatment plant in the Tijuana River Valley to treat Tijuana sewage. This plant is scheduled to be completed in 1998, after which time the emergency connection may no longer need to be used. The 13 mgd accepted through the emergency connection to the Metropolitan System can be shut down at any time the Metropolitan System requires additional capacity for the City or Participating Agencies.

Historical Revenues and Debt Service Coverage

Table 12 contains the Statement of Income for fiscal years ended June 30, 1989 through 1993, and Debt Service Coverage for such years.

Table 12

WASTEWATER SYSTEM STATEMENT OF INCOME AND CALCULATION OF DEBT SERVICE COVERAGE
Years Ended June 30, 1989 to 1993

	Year Ended June 30				
	1989	1990	1991	1992	1993
OPERATING REVENUES					
Sewer Service Charges:					
Inside City:					
Domestic	$52,778,393	$64,383,502	$71,508,951	$74,596,267	$80,316,000
Commercial and Industrial	26,050,513	36,191,270	33,322,913	32,465,104	34,954,000
Outside City:					
Domestic, Commercial and Industrial	10,235	15,965	9,762	6,756	8,000
Treatment Plant Service for Others	12,320,736	15,818,751	15,541,533	28,880,874	35,406,000
Total Sewer Service Charges	91,159,877	116,409,488	120,383,159	135,949,001	150,684,000
Other Operating Revenues:					
Aquaculture Operating Grants	2,629,689	2,031,017	962,749	1,410,760	0
Miscellaneous (Net)	133,028	506,162	240,875	734,550	300,000
TOTAL OPERATING REVENUES	93,922,594	118,946,667	121,586,783	138,094,311	150,984,000
OPERATING EXPENSES	59,756,402	55,906,242	73,673,511	90,839,060	89,000,000
OPERATING INCOME	34,166,192	63,040,425	47,913,272	47,254,621	61,984,000
NON-OPERATING REVENUES (EXPENSES):					
Interest Income	10,801,176	15,227,352	21,886,005	18,210,011	11,000,000
Gain (Loss) on Sale/Retirement of Fixed Assets	(296,464)	0	230,286	(261,019)	0
Gain on Early Redemption of Bonds	0	14,655	48,725	3,689	0
Interest Expense - Revenue Bonds	(1,188,054)	(946,601)	(845,673)	(759,467)	(700,000)
Reverse Repurchase - Interest Expense	0	0	(3,149,672)	(1,000,212)	0
Other	0	0	7,458,773	0	0
TOTAL NON-OPERATING REVENUES (EXPENSES)	9,316,658	14,295,406	25,628,444	16,193,002	10,300,000
Operating Transfer In	26,953	821,484	24,840,106	90,377	0
Operating Transfer Out	(310,188)	(1,000,000)	(27,985,005)	(500,000)	(500,000)
NET INCOME	43,199,615	77,157,315	70,396,817	63,038,000	71,784,000
Depreciation	7,202,283	7,595,851	7,728,094	8,537,235	9,000,000
Interest Expense	1,188,054	946,601	845,673	759,467	700,000
Gain (Loss) on Sale/Retirement of Fixed Assets	296,464	0	(230,286)	261,019	0
Gain on Redemption of Bonds	0	(14,655)	(48,726)	(3,689)	(8,262)
Trunk Line Sewer Area Charge	763,426	167,564	156,378	26,177	0
Capacity Charge Municipal System	21,920,230	22,252,272	10,657,003	12,385,388,	10,499,000
Operating Transfers to Other City Funds	(26,953)	(821,484)	0	0	0
Operating Transfers from Other City Funds	310,188	1,000,000	0	0	0
NET REVENUE AVAILABLE FOR DEBT SERVICE[1]	74,853,307	108,283,464	89,504,953	85,003,597	91,974,738
DEBT SERVICE DUE IN FISCAL YEAR	2,958,905	2,941,888	2,969,120	2,974,770	2,979,250
COVERAGE	25.30x	36.81x	30.15x	28.57x	30.87x

(1) Calculated in accordance with ordinances authorizing the 1961 Bonds and the 1966 Bonds which will be defeased upon the issuance of the Series 1993 Bonds.

Source: Water Utilities Department, Audited Financial Statements of the Sewer Revenue Fund

Operating Revenues

Sewer service charges for domestic customers increased consistently from 1989 to 1993 due primarily to increased rate levels. Commercial and Industrial charges declined in 1991 and 1992 primarily due to water conservation efforts undertaken during California's seven year drought, which ended in 1993.

The increase in Treatment Plant Service for Others revenue in 1992 was due to increased Participating Agency payments relating to the Fiesta Island Replacement Project, compliance with the State Ocean Plan, and one-time payments relating to the repair of the Point Loma outfall.

Operating Expenses

Operating expenses increased from 1989 to 1993 due primarily to increased chemical costs relating to enhanced treatment processes, and one-time costs relating to repair of the Point Loma outfall.

Interest Income

Interest Income increased through 1991, primarily due to increases in investable balances. Interest income decreased in 1992 due to decreases in investable balances and lower investment interest rates.

Operating Transfers

Operating Transfers In and Out in 1991, which are normally eliminated as intrafund transfers, were not eliminated in error and therefore have resulted in an overstatement. Correct amounts for 1991 for Operating Transfer In and Out were $129,339 and $3,274,238, respectively.

Capacity Charges

Capacity Charge revenue declined in 1991 and 1992 due to a reduction in the level of construction in the service area.

Projected Operating Results

The Department has developed a financial model and financing plan (the "Financial Model") which projects the future financial operations of the Wastewater System. The Financial Model has been used by the City in the development of future rates, fees and charges necessary to meet the requirements of the City's obligations under the Installment Purchase Agreement. The Financial Model is based on many assumptions. The major assumptions are detailed below. The Financial Model segregates the Municipal System and the Metropolitan System in calculating the necessary levels of rates, fees and charges to sustain each System.

Table 13 provides a projection by the City of the operating revenues of the Wastewater System for the years ending June 30, 1994 through June 30, 2003. The principal assumptions made by the City used in the preparation of such operating results are as follows:

1. Municipal System maintenance and operation expenses will increase at an average of approximately 6.00% per year.

2. The Metropolitan System will continue to be owned and operated by the City; and the facilities contained in the Consumers' Alternative will be constructed and come into operation as currently planned by the City.

3. Metropolitan System maintenance and operation expenses will increase at an average annual rate of 4.57% per year.

4. The Metropolitan System will incur expenses for certain treatment costs of effluent from Tijuana, Mexico of approximately $900,000 per year through 1995.

5. Industrial pretreatment costs are included in Metropolitan System maintenance and operation costs and are projected to increase 1.2% per year.

6. The City will continue to maintain a 45-day operating reserve which is based upon 12.50% of total aggregate Municipal System and Metropolitan System maintenance and operating expenses.

7. Maintenance and operation expenses (in thousands) for the years ending June 30, 1994 through June 30, 2003 will be as follows:

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Municipal System	$ 30,741	$ 32,586	$ 34,541	$ 36,613	$ 38,810	$ 41,139	$ 43,607	$ 46,223	$ 48,997	$ 51,937
Metropolitan System	72,710	85,940	94,207	103,143	108,721	112,757	117,332	126,096	133,121	140,708
TOTAL	$103,451	$118,526	$128,748	$139,756	$147,531	$153,896	$160,939	$172,319	$182,118	$192,645

8. Sewer service rates and charges, SFE's and capacity charges for the years ending June 30, 1994 through June 30, 2003 are based on growth projections of population and housing contained in the Official Regional Growth Forecast prepared by the San Diego Association of Governments as modified by an internal vacancy analysis, and will be as follows:

					Projected					
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Single-Family Monthly Service Charge	$21.61	$22.91	$24.28	$25.74	$27.28	$28.92	$30.66	$32.50	$32.50	$32.
Single-Family Residential Accounts	199,271	200,149	201,027	201,906	202,784	203,662	204,540	206,656	208,772	210,8
Total Service Charge Revenues (000)	$125,910	$136,589	$148,987	$162,487	$177,125	$189,716	$203,211	$217,824	$220,878	3,3
Capacity Charge Per SFE	$6,033	$6,998	$6,998	$6,998	$6,998	$6,998	$6,998	$6,998	$6,998	
Annual Increase in SFE's	3,109	5,144	7,204	9,297	10,975	11,233	11,494	5,755	5,770	5,7
Total Capacity Charge Revenues (000)	$18,757	$35,998	$50,414	$65,060	$76,803	$78,609	$80,435	$40,273	$40,378	$40,

9. The City will fund the capital costs of the Consumers' Alternative as provided in the Financial Plan from a combination of proceeds of indebtedness and from Wastewater System revenues as set forth in Table 5.

10. The average annual interest rate on indebtedness issued to finance the costs of the capital improvement program will be 7.5% and such debt will be amortized over 30 years.

11. The average annual interest rate on reinvested funds will be 7.0%.

12. The Participating Agencies will contribute 30% of the total Metropolitan System effluent flow and will pay operation and maintenance expenses together with capital costs associated with the repair, replacement and betterment of the existing Metropolitan System based upon their proportionate discharge of wastewater. The Participating Agencies will pay their proportionate share of the costs of the Metropolitan System capital improvement program other than the capital costs associated with the expansion of the Point Loma Plant beyond 234 mgd and the capital costs of any water reclamation projects. The capital costs associated with such expansion and reclamation projects are estimated to be $171.8 million.

13. Annual flows of the City for years ending June 30, 1994 through June 30, 2003 will be as follows:

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Annual Flows - mgd	126.20	130.66	136.61	142.69	148.86	150.95	153.07	154.93	156.80	158.69
Percent (%) Increase	1.89	3.53	4.55	4.45	4.32	1.40	1.40	1.22	1.21	1.21

Table 13 shows projected operating results of the Sewer Revenue Fund for the fiscal years ending June 30, 1994 through June 30, 2003 based on the principal assumptions contained in the Financial Model.

Table 13

PROJECTED SEWER REVENUE FUND REVENUES AND EXPENSES (000)

Fiscal Years Ending June 30, 1994 to June 30, 2003

	PROJECTED									
Description	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
OPERATING REVENUES										
Service Charge Revenues	$125,910	$136,589	$148,987	$162,487	$177,125	$189,716	$203,211	$217,824	$220,878	$223,38
New Sewer Connections	132	133	134	135	136	137	138	139	140	14
Sewage Treatment Plant Services (a)	23,351	26,170	28,835	30,453	30,407	31,053	30,893	32,606	34,068	35,65
Sludge Handling Charge	60	62	62	64	67	68	68	69	69	7
Services Rendered to Others	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,31
Sale of Electricity/Gas Engine Generation	350	350	350	350	350	350	350	350	350	35
Other Revenue	660	660	660	660	660	660	660	660	660	66
TOTAL REVENUES	151,775	165,276	180,340	195,461	210,057	223,296	236,632	252,960	257,477	261,57
Operation and Maintenance Expenses	103,451	118,526	128,748	139,757	147,532	153,896	160,939	172,320	182,118	192,64
OPERATING INCOME	48,324	46,750	51,592	55,704	62,525	69,400	75,693	80,640	75,359	68,92
OTHER INCOME (CHARGES)										
Sewage Treatment Plant Services (b)	11,633	8,809	13,439	26,448	30,670	21,800	21,757	23,588	14,512	13,41
Interest Earnings (c)	12,711	21,927	23,587	24,605	23,663	22,775	24,371	25,269	25,464	25,74
Capacity Charge Municipal System	18,757	35,998	50,414	65,060	76,803	78,609	80,435	40,273	40,378	40,10
TOTAL OTHER INCOME	43,101	66,734	87,440	116,113	131,136	123,184	126,563	89,130	80,354	79,27
NET REVENUE AVAILABLE FOR DEBT SERVICE	91,425	113,484	139,032	171,817	193,661	192,584	202,256	169,770	155,713	148,20
DEBT SERVICE	14,144	23,731	40,313	66,169	82,771	85,226	85,226	85,226	85,226	85,226
DEBT SERVICE COVERAGE	6.46	4.78	3.45	2.60	2.34	2.26	2.37	1.99	1.83	1.74

(a) - Excludes Participating Agency and Naval reimbursement of capital costs.
(b) - Participating Agency and Naval reimbursement of capital costs.
(c) - Excludes interest earned on construction fund.

TAX EXEMPTION

In the opinion of Orrick, Herrington & Sutcliffe and Arnelle & Hastie, Co-Bond Counsel, based upon existing laws, regulations, rulings and court decisions, and assuming (among other things) compliance with certain covenants, interest on the Series 1993 Bonds is excluded from gross income for federal income tax purposes and is exempt from State of California personal income taxes. Co-Bond Counsel are further of the opinion that interest on the Series 1993 Bonds is not a specific preference item for purposes of the federal individual and corporate alternative minimum taxes, although Co-Bond Counsel observe that such interest is included in adjusted current earnings in calculating federal corporate alternative minimum taxable income. A complete copy of the opinion of Co-Bond Counsel is set forth in Appendix F hereto.

The Internal Revenue Code of 1986, as amended (the "Code") imposes various restrictions, conditions and requirements relating to the exclusion from gross income for federal income tax purposes of interest on obligations such as the Series 1993 Bonds. The City and the Authority have covenanted to comply with certain restrictions designed to assure that interest on the Series 1993 Bonds will not be included in federal gross income. Failure to comply with these covenants may result in interest on the Series 1993 Bonds being included in federal gross income, possibly from the date of issuance of the Series 1993 Bonds. The opinion of Co-Bond Counsel assumes compliance with these covenants. Co-Bond Counsel have not undertaken to determine (or to inform any person) whether any actions taken (or not taken) or events occurring (or not occurring) after the date of issuance of the Series 1993 Bonds may affect the tax status of interest on the Series 1993 Bonds.

Certain requirements and procedures contained or referred to in the Indenture, the Installment Purchase Agreement and other relevant documents may be changed and certain actions may be taken or omitted, under the circumstances and subject to the terms and conditions set forth in such documents. Co-Bond Counsel express no opinion as to any Series 1993 Bonds or the interest thereon if any such change occurs or action is taken upon the advice or approval of bond counsel other than Orrick, Herrington & Sutcliffe and Arnelle & Hastie.

Co-Bond Counsel are of the opinion, based on existing laws, regulations, rulings and court decisions, that the difference between the initial offering prices to the public (excluding bond houses and brokers) at which a substantial amount of any maturity of the Series 1993 Bonds is sold and the amount payable at maturity thereof constitutes "original issue discount" for purposes of federal income taxes and State personal income taxes. Such discount is treated as interest excluded from federal gross income and exempt from State personal income taxes to the extent properly allocable to each other thereof. The original issue discount accrues over the term to maturity of each such maturity of each Series 1993 Bond on the basis of a constant interest rate compounded on each interest or principal payment date (with straight-line interpolations between compounding dates). The amount of original issue discount accruing during each period is added to the adjusted basis of such Series 1993 Bonds to determine taxable gain upon disposition (including sale, redemption or payment on maturity) of such Series 1993 Bonds. The Code contains certain provisions relating to the accrual of original issue discount in the case of purchasers of the Series 1993 Bonds who purchase after the initial offering of a substantial amount of such maturity. Owners who do not purchase the Series 1993 Bonds in the initial offering at the initial offering price should consult their own tax advisors with respect to the tax consequences of ownership of the Series 1993 Bonds with original issue discount. All owners of Series 1993 Bonds with original issue discount should consult their own tax advisors with respect to the allowance of a deduction for any loss on a sale or other disposition to the extent that such loss is attributable to accrued original issue discount. Owners of such Series 1993 Bonds should also consult their own tax advisors with respect to the treatment of accrued but unpaid interest on such Series 1993 Bonds under federal individual and corporate alternative minimum taxes.

Although Co-Bond Counsel have rendered an opinion that interest on the Series 1993 Bonds is excluded from federal gross income, the ownership or disposition of, or the accrual or receipt of interest on, the Series 1993 Bonds may otherwise affect an owner's tax liability. The nature and extent of these other tax consequences will

depend upon the particular tax status of the owner or the owner's other items of income or deduction. Co-Bond Counsel express no opinion regarding any such other tax consequences.

INDEPENDENT ACCOUNTANTS

The financial statements of the Sewerage Utility Fund at June 30, 1992 and 1991, and for the fiscal years ended June 30, 1992 and 1991, attached hereto as Exhibit B to this Official Statement have been audited by Deloitte & Touche, independent accountants, as set forth in their report, dated November 13, 1992.

CONSULTING ENGINEER

High-Point has prepared a report dated July 1, 1993, attached hereto as Appendix A (the "Consulting Engineer's Report"). The Consulting Engineer's Report should be read in its entirety for an understanding of the Consulting Engineer's conclusions concerning the Wastewater System.

CERTAIN LEGAL MATTERS

Legal matters incident to the authorization and issuance of the Series 1993 Bonds are subject to the approval of Orrick, Herrington & Sutcliffe, Los Angeles, California and Arnelle & Hastie, San Francisco, California, Co-Bond Counsel. The form of opinion Co-Bond Counsel propose to render is attached as Appendix F. Co-Bond Counsel undertake no responsibility for the accuracy, completeness or fairness of this Official Statement, except that Co-Bond Counsel are providing an opinion to the Underwriters to the effect that the statements contained in the Official Statement under the captions "INTRODUCTION", "DESCRIPTION OF THE SERIES 1993 BONDS" (excluding "Book-Entry-Only System"), "SECURITY FOR THE SERIES 1993 BONDS", "TRANSFER OF OWNERSHIP OF METROPOLITAN SYSTEM — Installment Purchase Agreement Conditions for Transfer Of Metropolitan System", and in APPENDIX E — "SUMMARY OF PRINCIPAL LEGAL DOCUMENTS", insofar as such statements purport to summarize certain provisions of the Bonds, the Installment Purchase Agreement and the Indenture taken as a whole are accurate in all material respects, and the statement under the caption "TAX EXEMPTION" is an accurate description of Co-Bond Counsel's opinions concerning certain federal tax matters relating to the Series 1993 Bonds. Certain legal matters are subject to the approval of John W. Witt Esq., the City Attorney of the City of San Diego and General Counsel to the Authority, and by Mudge Rose Guthrie Alexander & Ferdon, Los Angeles, California and Harrison, Taylor & Bazile, San Diego, California, Counsel to the Underwriters.

LITIGATION

There is no litigation pending concerning the validity of the Series 1993 Bonds, the corporate existence of the City or the Authority, or the title of the officers to their respective offices.

UNDERWRITING

The Series 1993 Bonds are to be purchased by Morgan Stanley & Co. Incorporated, Kemper Securities, Inc., Rauscher Pierce Refsnes, Inc., Charles A. Bell Securities Corp., Renge Securities & Co. and Muriel Siebert & Co. Inc. as Underwriters, at a price which includes an underwriter's discount of $1,801,356.25. The Underwriters are committed to purchase all the Series 1993 Bonds if any are purchased. The Underwriters may offer and sell the Series 1993 Bonds to certain dealers (including depositing the Series 1993 Bonds into investment

trusts) and others at prices lower than the offering prices stated on the inside cover of this Official Statement. After the initial public offering, the public offering prices of the Series 1993 Bonds may be changed from time to time by the Underwriters.

AVAILABILITY OF DOCUMENTS

Copies of the Official Statement, the Indenture, and the Installment Purchase Agreement will be available, upon written request, from the City Clerk of the City of San Diego, The City of San Diego, 202 C Street, MS 2A, San Diego, California 92101. Additional copies of the Official Statement will be made available upon request from the Financial Advisors, Public Resources Advisory Group, 3550 Wilshire Blvd., Suite 1405, Los Angeles, CA 90010, (213) 380-9344 and Grigsby Brandford & Co., Inc., 701 B Street, Sixth Floor, San Diego, California 92101, (619) 525-2121.

MISCELLANEOUS

References are made herein to certain documents and reports that are brief summaries thereof that do not purport to be complete or definitive, and reference is made to such documents and reports for full and complete statement of the contents thereof.

Any statements in this Official Statement involving matters of opinion, whether or not expressly so stated, are intended as such and not as representations of fact. This Official Statement is not to be construed as a contract or agreement between the City and the purchasers or holders of any of the Series 1993 Bonds. The preparation and distribution of this Official Statement have been authorized by the Authority.

PUBLIC FACILITIES FINANCING AUTHORITY
OF THE CITY OF SAN DIEGO

By: /s/ Jack McGrory
Chairman

APPENDIX A

FEASIBILITY LETTER FROM

HIGH-POINT ENGINEERS

SAN DIEGO WASTEWATER PROGRAM

ENGINEER'S STATEMENT OF FEASIBILITY

August 1, 1993

Performed by HIGH-POINT

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I. EXECUTIVE SUMMARY

The City of San Diego (the "City") engaged High-Point for the preparation of an Engineer's Statement of Feasibility to provide an independent opinion that assesses the City's Consumers' Alternative capital improvement program, the City's ability to fund the Consumers' Alternative and meet its construction timetable, its ability to provide reasonably accurate and detailed cost estimates for major construction projects, and its ability to provide for adequate operations and maintenance of the Wastewater System. The Engineer's Statement of Feasibility also provides an independent evaluation of the adequacy of the City's Financing Plan in connection with the proposed issuance of Sewer Revenue Bonds, Series 1993 by the City.

This Engineer's Statement of Feasibility (or "Report") presents an independent opinion of the feasibility of the City's wastewater program with respect to six distinct areas of investigation. Completing the Engineer's Statement of Feasibility required assembling a team of professionals (the "Team") qualified in each of the six areas evaluated. High-Point, in association with Damon S. Williams Associates, Dean Ryan Technical Resources, Inc., and F. E. Jordan Associates, Inc., has prepared this Engineer's Statement of Feasibility. The six areas are Engineering, Scheduling, Organization and Management Structure, Operations and Maintenance, Cost Estimation, and Financing Plan. Following is a brief description of each area.

A. Engineering - Evaluated the City's ability to implement, complete, and maintain the integrity of its capital improvement program. Verified that the cost estimates and schedules are reasonable and attainable for the proposed projects.

B. Scheduling - Assessed the Clean Water Program's scheduling methodology and the feasibility of the Consumers' Alternative construction schedule.

C. Organization and Management Structure - Analyzed the organizational structure of the Clean Water Program to effectively implement the Consumers' Alternative within the City's timetable.

D. Operations and Maintenance - Reviewed the adequacy of Wastewater System Operations and Maintenance programs. The review included both present and planned staffing and associated costs. On the basis of interviews with City Operations and Maintenance staff and reviews of City Operations and Maintenance records, the Team formed an opinion of the ability of the present and planned organization to effectively operate and maintain the system. After reviewing the Project Report and Consumers' Alternative, the Team evaluated planned staffing requirements and operating cost estimates and reconciled these estimates to the current Financing Plan.

E. Cost Estimation - Provided an opinion of reasonableness and accuracy of the City's cost estimating techniques and procedures.

F. Financing Plan - Evaluated the adequacy of and reasonableness of the Financing Plan and Revenue Program to provide sufficient forecasted revenues, to meet

projected operation and maintenance expenses, annual debt service requirements, coverage requirements, capital expenditures and other funding requirements.

Primary Assumptions

The primary assumptions underlying the Team's opinion regarding the feasibility of the City's wastewater program are:

- The period of evaluation is FY 1993 to FY 2003, inclusive;
- The Consumers' Alternative includes 17 major Clean Water Program projects which will be funded during the evaluation period;
- The City will continue to own, operate, and maintain all facilities;
- The City and the other participating agencies will complete their contractual obligations during the evaluation period;
- The Point Loma Treatment Plant will continue to operate at advanced primary treatment;
- The San Diego City Council will set rates and charges sufficient to meet all legal requirements;
- The City will continue to be entitled to collect revenues from its current user base;
- Operations and Maintenance costs will increase at an average annual rate of five to six percent per year (five percent inflation and, for certain operations and maintenance areas, one percent growth) through the evaluation period; and
- The City will have the ability to access the capital markets to borrow funds for the Consumers' Alternative over the evaluation period at an average interest rate of 7.5 percent.

General

The primary goals and objectives of the City's wastewater program are to plan, design, construct and operate an adequate wastewater system for the Greater San Diego area. From October 1989 until May 1992, the Clean Water Program pursued a plan and capital improvement program that would have culminated in a system of treatment plants, facilities and pipelines referred to as Alternative IV. However, at the direction of the City Council, the scope of the program was reassessed. As a result, a modified version of the capital improvement program was adopted; the Consumers' Alternative.

The Consumers' Alternative projects managed by the Clean Water Program are the primary subject of this evaluation. The Team received in-depth presentations of elements of the Consumers' Alternative from Department and Division Heads of the City, the Program Manager and the Construction Manager, and was provided with documents pertinent to the evaluation. The findings of the Team, by area, are summarized below.

Opinion

Based on the Team's evaluation, it is the opinion of the Team that the Consumers' Alternative is feasible and can be funded within the City's timetable and the City's wastewater program is reasonable and adequate with respect to the following areas:

- Engineering - the City has the ability to plan, design and construct the proposed capital improvements to the Wastewater System.

- Scheduling - the scheduling methodology is clear, focused, logical and effective and includes the necessary components of a sound scheduling system. The logic and estimated durations are reasonable and sufficient. The Consumers' Alternative schedule is achievable within the time constraints established for the program.

- Organization and Management Structure - the organization and management structure in place is adequate to implement the Consumers' Alternative and to operate the Wastewater System through the evaluation period.

- Operations and Maintenance - the Operations and Maintenance programs in place are adequate, and the planned system staff and estimated costs of operations and maintenance are reasonable.

- Cost Estimation - the City's cost estimating techniques are appropriate for the Consumers' Alternative capital improvement programs, the estimates prepared are reasonable, and the policies and procedures for cost estimation and control are adequate.

- Financing Plan - the City's revenue assumptions and resulting forecasted revenues in the Financing Plan are reasonable. The Team has also concluded that the forecasted revenues, debt issues and other sources of funds are adequate to fund projected Operations and Maintenance expenses, annual debt service requirements, coverage requirements, administrative expenses, payments to reserve funds and capital expenditures of the Wastewater System. The Financing Plan is feasible based on current expected conditions during the forecast period.

Summaries of the results of the Team's evaluation of each of the areas follow. Reference is made to the several sections of this Engineer's Statement of Feasibility for a comprehensive discussion of the Team's evaluation.

Engineering

The principal evaluation of the engineering elements of the program involved a detailed examination of the Project Report and the Consumers' Alternative. The Project Report and Consumers' Alternative were reviewed to gain an understanding of the elements of the capital improvement program and of its soundness, its completeness, its ability to be implemented in an effective and efficient manner and its ability to meet the long-term objectives of the Wastewater System, including the maintenance of system integrity, customer satisfaction and acceptability to both users and regulators.

The City is proceeding with its plan to implement the Consumers' Alternative, including the preparation of predesign reports, completion of certain design contracts, engagement of a construction manager, commencement of two construction contracts, and completion of three construction contracts. The Consumers' Alternative is an economic and effective program of wastewater capital improvements. The Team believes that this capital improvement program is a viable solution to the City's wastewater handling needs for the next ten years.

Scheduling

The Clean Water Program has developed its facilities plan using a phased approach to scheduling capital improvements consistent with the functional requirements and facilities start-up goals of the Consumers' Alternative. The techniques used to develop the schedules and related document evolved from the Clean Water Program's initial planning efforts and continued through the development of the Consumers' Alternative.

The Clean Water Program has established three definitive levels of scheduling, the intent of which is to meet the specific needs of the program's management and to accommodate the future scheduling efforts of the program's designers and contractors. At the present time, the Clean Water Program has completed Level I and Level II scheduling; the more detailed Level III scheduling has also been completed for seventeen projects and will continue as designers and contractors are retained.

Our evaluation of the program schedule revealed that the Clean Water Program has a clear and direct approach to scheduling and has adequately addressed the issues of task identification, monitoring and control, and resource allocation. Historical comparison of the schedule for the Clean Water Program with those of other multicity and single city jurisdictions provided the initial benchmark for rating the achievability of the proposed schedule. It is the Team's assessment that the time periods are sufficient for the achievement of the program and the schedule is feasible, provided that control is maintained as planned.

Organization and Management

The success of the Clean Water Program will depend to a certain extent on its staffing, organization and management. The Team has reviewed the current and projected organization and management structure of the Clean Water Program to determine if it will be sufficient to

fulfill the program's main objectives, namely, to design, bid and construct the proposed Clean Water Program facilities. An element of the Team's review of the proposed organization and management structure was to determine how this structure will fit into and operate as part of the newly created, State-enacted, San Diego Area Wastewater Management District. The Team has reviewed the City's plan for this transition and has found that should the Metro System and Clean Water Program become incorporated into the San Diego Area Wastewater Management District, management has devised and will propose an appropriate organization and management plan.

The team examined the adequacy of current and proposed organizational structures and staffing plans to implement the design, bid and construction programs of the Clean Water Program. The current organizational structure of the Clean Water Program is appropriate for the tasks of design, bid and construction of the Consumers' Alternative facilities.

Operations & Maintenance

The focus of this evaluation was on current and projected Operations and Maintenance costs of existing facilities and facilities planned under the Consumers' Alternative. The Team assessed the adequacy and reasonableness of current and projected budget and staffing levels for these facilities.

Information was collected on the treatment processes used, staffing, and Operations and Maintenance costs for similar facilities in cities of comparable size to the City. Operations and Maintenance budget and staffing projections for these facilities were compared to the facilities included in the Consumers' Alternative. A summary of these comparisons is presented in various tables at the end of Section VI.

The projected Operations and Maintenance costs for the Municipal Sewerage System in FY 2003 are $51.9 million. These costs and related staffing levels and assumed increases in Operations and Maintenance costs for this system from FY 1993 to FY 2003 are reasonable for a system of this size.

The projected Operations and Maintenance costs for the current Metropolitan Sewerage System for FY 1993 are $53.4 million, $10.1 million less than the prior fiscal year. The updated cost estimates for the Point Loma facility are approximately $19.0 million. This cost compares favorably with other primary treatment facilities surveyed on a cost-per-million-gallons-treated basis. Staffing for the system appears reasonable. The projected Operations and Maintenance costs for the current system for FY 2003 are $87.46 million. This projected cost is reasonable based on our observation that the budget includes additional capital improvements at the plant and the decommissioning of Fiesta Island during the time period evaluated.

Projected Operations and Maintenance costs for FY 2003 for the Clean Water Program facilities are $53.2 million. The assumptions used to develop the Operations and Maintenance costs are

clear and concisely presented. Projected Operations and Maintenance costs were split into personnel costs and nonpersonnel costs. The personnel costs were derived using a staffing plan developed by the Clean Water Program for each facility and average labor rates ($45,000/year for plant and pump station personnel, and $40,000/year for Central Maintenance and Warehouse personnel). The nonpersonnel costs were developed by the Clean Water Program using cost equations based on operating conditions and flow for FY 2003. The total was then escalated from 1992 dollars at an inflation rate of five percent to FY 2003. The team concluded that this approach was adequate and reasonable.

The Clean Water Program anticipates a higher level of staffing than found in comparable water reclamation facilities in the western United States. This is attributable to conservative staffing assumptions by the City. It is our understanding that Clean Water Program staff will continue to refine and streamline these staffing estimates as the Consumers' Alternative is implemented.

Cost Estimation

The draft version of the "Cost Estimating Guidelines" - Chapter 4 of the *Program Guidelines for Design Consultants* - has been utilized to develop the cost estimates for the Clean Water Program. These guidelines, developed by the Clean Water Program staff and dated November 21, 1991, are used to prepare the estimates (conceptual, preliminary and definitive) and to track and control project costs. The cost estimates that were prepared for the Clean Water Program have been compiled and presented in an organized manner and categorized into various logical groups such as treatment plants, pipelines, etc., allowing management to effectively track status and progress.

Preliminary estimated cost information was derived from a common data base; the R. S. Means *Heavy Construction Cost Data, 1990* (Means). This source was used regardless of the type of project - treatment plants or pipeline systems. Additionally, the Program Manager also obtained quotations from local suppliers and contractors regarding costs and production rates for various pieces of heavy equipment and different types of construction operations. In addition to general historical data, results from similar specific pipeline projects which have been recently bid and/or constructed were also utilized.

The cost estimation techniques used in the past and planned for the future are adequate, resulting in a reasonable representation of the scope of the program. As more data is developed, the Clean Water Program has the staff and procedures in place to update the cost estimates to attain a higher degree of reliability. In this regard, the estimates for contingencies and the Engineering, Legal and Administrative allowances must be constantly reevaluated and adjusted. The Clean Water Program has implemented a budget and cost reporting system to monitor any deviations and trends. This is an appropriate management control procedure. In general, however, the Team concludes that the total costs estimated at this time for the Clean Water Program are reasonable for the scope and magnitude of the program.

Financing Plan

The City's Financing Plan for the Sewer Revenue Fund considers the eleven-year period beginning July 1, 1992, and ending June 30, 2003. The Financing Plan presents the City's projection of revenues, debt issues and other sources of funds expected to be available during the forecast period to meet projected operation and maintenance expenses, annual debt service requirements, coverage requirements, administrative expenses, payments to reserve funds, and certain capital expenditures of the Wastewater System. For purposes of the Series 1993 and future bond issues, net revenues must also be sufficient to meet applicable debt service coverage requirements in the Indenture. The Financing Plan is based on certain assumptions made by the City which are anticipated during the forecast period.

- Primary revenue sources are sewer service charges from single-family and nonsingle-family users and capacity charges paid by new development. The rates and charges for the Wastewater System are established annually by the City Council of the City of San Diego which has approved rates and charges through FY 1995. The Financing Plan assumes that the City Council will set rates and charges in the future to meet all required legal obligations.

- Single-family residential customers pay a fixed charge per month. The assumptions regarding the forecast of revenue from single-family residential customers are based on increases in rates charged and increases in population in each year of the forecast period. Nonsingle-family customers pay a charge based on a proportion of metered water usage (wastewater flows).

- Capacity charge revenues represent fees charged upon development of property for capacity in the Wastewater System. The charge is fixed annually and applied on a single-family equivalent basis to new development. The Financing Plan assumes increases in both development of real property and in capacity charge rates over the forecast period. The Financing Plan contains a discussion of factors influencing increases in single-family equivalents which are based on increases in population translated into increases in occupied housing units and moderated by the cyclical nature of real estate development. The population forecast to the year 2003 in the published SANDAG Series VII report supports the single-family equivalents used.

- The Metro System provides sewage treatment plant services to 15 Participating Agencies. Each Participating Agency has entered into a sewerage disposal agreement with the City. Under the agreement, a Participating Agency pays an annual capacity service charge and its proportionate share of total maintenance and operation expenses. In addition, Participating Agencies are obligated to pay a portion of the incremental cost of expanding the system to its design capacity of 234 mgd advanced primary treatment. The agreements expire on June 30 or August 31, 2003, with the Participating Agencies having the option to extend the agreements for an additional ten years.

- Funds are invested until needed in either the City's pooled fund or by the Trustee of bond proceeds. The Financing Plan assumes that the rate on invested funds will at all times be less than the presumed bond interest rate. At this time, the cash flow assumes a reinvestment rate of 7% per annum on funds from future series of bonds which is below the annual rate earned in the pooled fund for each of the ten years preceding the forecast period.

- Primary assumptions in the Financing Plan concerning future series of bonds to be issued to fund capital improvements include an annual interest rate of 7.5 percent; a term of thirty years; a debt service reserve fund equal to one year's debt service; and a debt service coverage test for Wastewater System net revenues equal to a minimum 120% of debt service.

The fees and charges of the Financing Plan were compared with fees and charges of other municipal wastewater programs. In general, there are no directly comparable programs and, therefore, no conclusion can be made regarding the level of fees and charges of this program versus fees and charges of other programs because each program is unique. However, the review of fees and charges of other programs does indicate that sewer service charges and connection fees are increasing and that the fees and charges assumed in the Financing Plan are within, but at the upper end, of the range of fees and charges set by other programs.

The Team has reviewed the Financing Plan and the various assumptions outlined above and, based on current expected conditions during the forecast period, has concluded that the Financing Plan is feasible. The Team has concluded that the City's revenue assumptions and resulting forecasted revenues in the Financing Plan are reasonable. The Team has also concluded that the forecasted revenues, debt issues and other sources of funds are adequate to fund projected Operations and Maintenance expenses of the Wastewater System, annual debt service requirements, coverage requirements, administrative expenses, payments to reserve funds, and certain capital expenditures of the Wastewater System.

II. THE WASTEWATER SYSTEM

A. Introduction

The City of San Diego (the "City") currently processes wastewater to the advanced primary treatment stage before ocean disposal. Wastewater is collected in city-owned sewer lines. This collection system is referred to as the Municipal Sewerage System (the "Municipal System") and is managed by the Water Utilities Department. Effluent is passed from the Municipal System and from comparable systems of adjacent cities, through interconnecting interceptors of the Metropolitan Sewerage System (the "Metro System") which is also managed by the Water Utilities Department. The Metro System lines converge at principal pump stations and then proceed to the Point Loma Wastewater Treatment Plant where the level of treatment, as defined by industry standards, is advanced primary treatment. Treatment residual sludge is pumped to nearby Fiesta Island for drying before final disposition in the form of 100% beneficial reuse.

The Metro System currently consists of the Point Loma Advanced Primary Treatment Facility, the Fiesta Island sludge drying facility, the ocean outfall, the system laboratory, and several large wastewater pumping stations. The system was established in 1963 upon the completion of the Point Loma plant and serves most of the City plus fifteen other neighboring cities and agencies (the "Participating Agencies").

In 1987, the City commenced with a course of action intended to significantly upgrade the Metro System. It was the beginning of what is now the Clean Water Program - its goals then were to meet federal Clean Water Act requirements through secondary treatment systems, to achieve and maximize a system of water reclamation for reuse within San Diego County, and to meet the growing needs of the Metro System service area. To achieve these goals, the City established the Clean Water Program as a special program within the Water Utilities Department. It is staffed by full time City employees who, in turn, have been supplemented and supported by a consultant Program Manager — a joint effort lead by Montgomery Watson (formerly James M. Montgomery Consulting Engineers, Inc.) with Brown and Caldwell Consulting Engineers, Inc., NBS/Lowry Engineers and Planners, Inc., and Delon Hampton and Associates.

After more than two years of investigation, evaluation and planning, the Facilities Plan was established which incorporated three major documents that have laid the conceptual groundwork for the new system's engineering predesign and design. The three documents include the joint "Environmental Impact Report/Environmental Impact Statement," the "Financial Plan and Revenue Program," and the nine-volume *Project Report for Modifications to the Metropolitan Sewerage System* better known as the "Project Report."

The Project Report, completed in May 1990, recommended a system configuration identified as Alternative IV. Since distribution of the Project Report, required predesign reports have been initiated and most are now complete. Certain design and construction work has begun. In May 1992, however, out of concern for the projected cost and consequent impact upon the community,

the City directed the Clean Water Program to reassess and devise a less costly system configuration that would meet the City's needs. This effort gave rise to a revised capital improvement program now known as the Consumers' Alternative.

The proposed Clean Water Program facilities developed for the Consumers' Alternative consist of 1) the North City, Otay Valley and Mission Valley water reclamation plants; 2) the East Mission Gorge Pump Station; 3) the Northern Sludge Processing Facility (NSPF); 4) the Fiesta Island Replacement Project; 5) the Central Maintenance and Warehouse Facility; and 6) the related effluent pipelines, outfall and tunnels, and reclaimed water pipelines.

B. The Capital Improvement Programs

As with any municipal utility operation, there exists at least two distinct budgetary programs for the Wastewater System; one to fund the continuing operations and maintenance ("O&M") of the Wastewater System and the other to finance the replacement and rehabilitation of major existing facilities as well as the construction of new facilities. This second budgetary program is typically called a capital improvement program, or CIP.

Since 1963, the City has maintained a separate CIP for the Municipal System and the Metro System because there is a distinct division between these sewage collection and treatment systems. In May 1990, a third CIP was developed by the Clean Water Program to supplement the treatment facility capital requirements of the Metropolitan Capital Program.

In defining the scope of the Consumers' Alternative, all three CIP's were reviewed for the period FY 1993 through FY 2003. This period is identified as Phase I of the Consumers' Alternative. Current CIP expenditure projections by system, escalated for inflation but excluding costs of financing, are shown below.

o Municipal System	$602 million
o Metropolitan System	238 million
o Clean Water Program	1,146 million
Total CIP Expenditures:	$1,986 million

Reclaimed water distribution pipelines are not included in the Consumers' Alternative. Although the Clean Water Program has responsibility for the design and construction of these pipelines, these facilities are expected to be funded from the Water Revenue Fund as opposed to the Sewer Revenue Fund.[1] The Santee wastewater treatment plant is also not included in the Consumers' Alternative. This plant will be built by the City of Santee without the financial support of the City.

1. Both the Water Revenue Fund and the Sewer Revenue Fund, along with the programs these funds support, are managed by the Water Utilities Department. The San Diego City Council has directed that funding of reclaimed water distribution pipelines will come from the City's Water Revenue Fund. Except for the cost of the tertiary elements of water reclamation plants, all other costs and subsequent revenues are expected to be allocated to the Water Revenue Fund.

C. Engineer's Statement of Feasibility

The City will finance a significant portion of the Clean Water Program components of the Consumers' Alternative through planned bond offerings. In conjunction with the City's proposed issuance of Sewer Revenue Bonds, Series 1993, the City retained High-Point in association with Damon S. Williams Associates; Dean Ryan Technical Resources, Inc.; and F. E. Jordan Associates, Inc., to provide an Engineer's Statement of Feasibility of the program. The objective of the Engineer's Statement of Feasibility is to summarize findings of engineering and financial feasibility evaluations performed by the Team concerning certain programmatic elements of the Consumers' Alternative in conjunction with the proposed bond offering. In support of this objective, the feasibility of six specific areas was evaluated. Subsection E below presents the Team's approach and methodology for each of these areas of investigation.

D. Consultant Qualifications

High-Point is a part of High-Point plc, an international, publicly traded, group of companies specializing in construction consulting. High-Point has a 150-year heritage in the fields of design, engineering, construction, management, inspection, claims analysis, dispute resolution, and the commissioning and maintenance of major projects throughout the world. High-Point plc has over forty offices world wide staffed by over 1700 professionals.

High-Point has participated in more than one hundred wastewater treatment plant projects located throughout the U.S. Approximately forty percent of our experience has been in new facility construction. The balance of our experience has been associated with the retrofit and expansion of existing facilities. High-Point's experience with wastewater treatment plants includes construction management, cost estimating, CPM schedule preparation, schedule evaluation, value engineering, construction claims analysis and dispute resolution. For example, High-Point continues to be involved in the Management of a Cromwell, Connecticut Wastewater Treatment plant following completion of a project audit and engineering review. High-Point has also recently completed an engineering feasibility study and organization review of the Transportation Corridor Agencies' of Orange County, California, a $2 billion toll road program.

Damon S. Williams Associates of Phoenix, Arizona, specializes in water and wastewater planning, engineering, operations and maintenance, cost estimating, design and construction administration, and has authored operations and maintenance manuals. Related experience includes design and construction administration for the Los Angeles/Glendale Water Reclamation Plant and preparation of Operation and Maintenance Manuals for the East Bay Municipal Utility District (Oakland, CA).

Dean Ryan Technical Resources, Inc., formed in 1983, is a Southern California engineering firm providing services to the water and wastewater industry. Related experience includes construction management and scheduling support services for the City of Los Angeles Hyperion Wastewater treatment pumping plant and collection system.

F.E. Jordan Associates, Inc., is engaged in the disciplines of engineering, architecture, planning and research with special expertise in water and wastewater treatment plants. Related experience includes work on nine wastewater treatment plants and thirteen pump stations.

E. Methodology of Review

The City required that the Engineer's Statement of Feasibility address, investigate and issue an independent opinion regarding five specific areas of investigation. These five areas are Engineering, Cost Estimation, Operations and Maintenance, Revenue Program, and Institutional Structure (now defined as Organization and Management Structure). Scheduling was included in the area of Engineering; however, due to its importance, Scheduling is treated as an additional distinct area in this Report.

The steps undertaken to accomplish this assignment included data collection, Wastewater System staff interviews, document and program analysis and the preparation of the Report.

The work began with presentations of elements of the Consumers' Alternative by City department and division heads and the Program Manager to various Team members. The Team then conducted interviews of key Clean Water Program staff and obtained various work products of the Clean Water Program, including documents, schedules, estimates and directives. Appendix A includes a list of documents that the Team has received and reviewed. The third step involved document and program analysis. Clean Water Program documents were critically reviewed by the appropriate Team members. The documents provided were presumed to be accurate and reliable. As appropriate, financial, cost and scheduling documents were reviewed to verify adequacy and completeness; however, all other documents, such as memos, organization charts and official documents, were not independently verified. Additional information was requested from staff personnel when necessary.

The final step undertaken in this assignment was the preparation of this Report. Sections III through VIII discuss the statement of conditions, findings, and the opinions of the Team members for each of the six evaluated areas. The sections, in general, stand alone and present the findings and opinions of the specific area (a synopsized version of relevant findings and opinions is contained in the Executive Summary). In brief, the issues and elements covered by the Team's investigation for each area are summarized below.

Section III is the engineering evaluation. This section describes the wastewater treatment and conveyance system as it currently exists. The Consumers' Alternative capital improvement program is also described. The Project Report and other technical documents, such as a sample of the design submissions, have been evaluated, as have the schedules, cost estimates, and their respective supporting data. This evaluation also addresses the general feasibility of implementing the Consumers' Alternative.

Section IV outlines the City's scheduling methodology. An assessment was made of the Consumers' Alternative schedule's feasibility to meet the City's projected milestones. Additionally, this section presents a description of the scheduling techniques that were utilized and how they were applied.

Section V includes a review of the proposed organization and management structure of the Clean Water Program. This section describes the history and evaluation of this structure and includes a statement regarding the effectiveness (appropriateness) of current organizational and management policies. This section also presents an evaluation of the recently created San Diego Area Wastewater Management District (the "District") organization and its ability to carry out the objectives of the Clean Water Program.

Section VI addresses Operations and Maintenance ("O&M"). The current O&M program is summarized in this section. This section also evaluates the adequacy and reasonableness of projected O&M requirements of the Consumers' Alternative program to serve the future Wastewater System.

Section VII is a review of the City's cost estimation approach. This section of the report presents the Team's review of the City's cost estimation techniques, including the application of cost escalation, allowances and contingency factors. This review examined the appropriateness and reasonableness of these cost estimation techniques and the thoroughness of the City's effort in applying these techniques.

Section VIII addresses the Financing Plan for the City's Sewer Revenue Fund. This section is supported by the various assumptions and opinions of the other five areas of investigation. A description of the Team's method of analysis is given at the beginning of the section. The section includes a summary and evaluation of the City's assumptions related to forecasted revenues, debt issues and other sources of funds to fund projected O&M expenses of the Wastewater System, annual debt service requirements, coverage requirements, administrative expenses, payments to reserve funds and capital expenditures. A comparison to similar programs is also included. Finally, this section addresses the reasonableness of these revenue assumptions and the feasibility of achieving the planned financing of the Consumers' Alternative capital program.

III. ENGINEERING

To accomplish the task of evaluating the engineering elements of the Consumers' Alternative, the Team first examined a prior City planning document known as the Project Report. The Project Report was the culmination of the City's initial definitive planning and investigative effort. It lists and assesses twenty-one alternative approaches to the City's wastewater handling needs. From these alternatives the City selected a fundamental set of plants, pipelines and existing system upgrades that was designated Alternative IV. The Consumers' Alternative is a subsequent modification of the Alternative IV capital program.

The Team then examined selected post-Project Report work products, such as Predesign reports, Program Guidelines and final designs on specific plants and pipelines, to assess the progress of the program toward meeting its goals.

A. The Project Report

The Project Report for the Modifications to the Metropolitan Sewerage System dated May 1990 (the Project Report) consists of ten separate documents (nine volumes and an Executive Summary) that can be summarized in seven functional divisions:

1. Executive Summary
2. Criteria (Volume I)
3. Discharge (Volume II)
4. Treatment (Volume III)
5. Reclamation (Volumes IV - VII)
6. Sludge (Volume VIII)
7. Overall Plan (Volume IX)

The Project Report is a more comprehensive follow-up to the four volume Framework Report published in July 1989 (including an October 1989 addendum). The Project Report is also based upon two other key prior documents, the "Water Reclamation and Re-use Conceptual Master Plan" and the "Interim Environmental Report." At its release, the Project Report was reviewed by many agencies, groups and individuals, including both proponents and opponents of various Wastewater System alternatives.

As noted in the introductory section, the Project Report and two other companion reports were the basis for the facilities plan. The two companion reports are "The Environmental Impact Report/Environmental Impact Statement" and "The Financial Plan and Revenue Program."

B. The Consumers' Alternative

The Project Report recommended the implementation of Alternative IV to meet the wastewater handling needs of the City and its associated cities and agencies. Although Alternative IV was initially selected by the City, it was subsequently replaced by the Consumers' Alternative in May 1992. The Consumers' Alternative includes a subset or a modification of various Alternative IV

engineering elements. The Consumers' Alternative is described in a report entitled *Consumers' Alternative Executive Summary*, completed in September 1992.

The Program Manager and City staff have, since the development of the Project Report, presented many refinements that have been or are being studied and evaluated by the City. Some of the items in this category, all of which are included in the Consumers' Alternative, follow:

1. Re-siting of the Northern Sludge Processing Facility to Miramar Naval Air Station.

2. Continuation of, and enlarging, the current process of advanced primary treatment at the Point Loma plant.

3. Pilot testing of experimental chemical treatments to enhance the advanced primary treatment process at the Point Loma plant.

4. Extension of the Point Loma Outfall which is currently under construction.

5. Centralization of testing facilities.

6. Deep tunnelling to convey treated North City effluent to Pt. Loma Outfall in lieu of the San Diego River Outfall.

7. Defining the planning period in two phases, the first phase from 1992 to 2003.

These refinements are intended to produce cost savings, to be more consistent with revised demographic projections and flow control measures, and, in certain cases, to improve operations while at the same time mitigating environmental impacts and responding to the public's environmental concerns.

Items 2 and 3 above are particularly noteworthy. As presented in the Project Report, the proposed method of treatment at the Point Loma treatment plant was based on the oxygen activated sludge process ("OAS"), a conservative, traditional, and proven method, in order to achieve compliance with federal secondary treatment standards. Under the Consumers' Alternative, the City proposes an alternative method of treatment. The alternative involves the addition of chemicals to the existing advanced primary plant operation in an attempt to approach or meet secondary effluent standards. Several chemicals under consideration have been pilot tested over the past year. The evaluation of this approach and the pilot test program have been

supervised by the United States District Court (the "Court").[2] The testing program has been completed. Results to date have demonstrated improvement over the existing level of treatment, but have not been able to meet federal secondary treatment standards. A final report summarizing the chemical addition testing program will be completed and submitted to the Court in July 1993.

A three-year study by the National Research Council recommends revision of federal standards based on regional conditions.[3] This recommendation supports the City's solution as the most cost-effective and environmentally sound alternative. Under the Consumer's Alternative, the Point Loma plant will continue to use chemical addition after the pilot study is completed as a permanent method of treatment.

The Team's evaluation of the Project Report and Consumers' Alternative, in general, is that the engineering effort completed to date will meet the objectives of the Consumers' Alternative through FY 2003.

C. Post-Project Report Work Products

Subsequent to the completion and submittal of the Project Report in May 1990 much of the contemplated work, in the form of planning and design, has been initiated or accomplished. Many tasks of the program, such as predesign tasks, have been completed. Some tasks, such as the design and construction of elements of the new system, are in progress, and some are scheduled to start soon. Some of the originally contemplated elements, conceived at the time of the Project Report three years ago, have been altered to reflect more recent information. There are elements, as well, that have been canceled or replaced, such as the San Diego River Outfall (replaced) and the Mission Gorge Water Reclamation Plant (canceled), or put on hold such as the fourteen projects subject to a stay of action by the Court (nineteen month hold) and the Rose Canyon Trunk Sewer (indefinite hold pending resolution of site-specific issues).

The scope of work set forth in Amendment No. 7 of Montgomery Watson's Program Management Services (Program Manager) contract, which constitutes the majority of the Program Manager's work effort subsequent to the completion of the Project Report, has now been

2. The City of San Diego is involved in legal action with the Environmental Protection Agency and the California State Water Resources Control Board in the United States District Court, Southern District of California. Judge Rudi Brewster has acted on various issues of the matters that affect the Clean Water Program.

3. The National Research Council released, on April 16, 1993, its report, *Managing Wastewater in Coastal Urban Areas*, which recommends that, "Coastal municipal wastewater treatment requirements should be established through an integrated process on the basis of environmental quality as described ... rather than by technology-based regulations." In discussing its recommendation, the report notes that, "Environmental and human health concerns associated with wastewater contaminants differ depending on the location and mechanism of their introduction into coastal waters. Accordingly, wastewater treatment... should be guided by water and sediment quality of receiving waters."

completed. Amendment No. 7 sets out specific tasks, cited in the Schedule of Deliverables, to be performed by the Program Manager.

An outline of the Program Manager's Amendment No. 7 tasks is presented in Appendix D. The status of the Schedule of Deliverables was periodically updated indicating dates of actual or projected completion. The most recent update is dated August 22, 1992 and is attached as Enclosure III.B-1. Since this update, all tasks but two have been completed; the remaining two tasks were incorporated into later amendments. The following is a summary of the progress noted at the completion of tasks of Amendment No. 7:

	Status of Deliverables	Tasks
•	Completed On or Ahead of Schedule	20
•	Completed Behind Schedule	4
•	Deleted/Not Required	19
•	Postponed to Future Amendments	2
	Total:	45

The Program Manager is currently providing support services to the City under Amendment No. 11, by providing technical and management staff. The Program Manager's staff is on-site full time and integrated with the City's staff. (Note: A stated goal of the City is that whenever technically feasible and economically beneficial, consultant staff will be replaced with City staff.) Under this contract revision, the Program Manager's scope of services has transitioned from task-specific performance to a level-of-effort support function to the Clean Water Program. An outline of the Program Manager's Amendment 11 scope describing the kinds of services that will be provided through February 1996 is presented in Appendix D.

C.1 PROJECT STATUS

Because the relocated Fiesta Island Replacement Project at Miramar Naval Air Station is already in design and existing data on adjacent projects is available for the rerouting of the deep tunnel San Diego River Outfall to the Point Loma Outfall, no predesign reports have been prepared for these projects. All other predesign reports that were scheduled, however, have been completed. They are as follows:

Predesign Reports Completed

- √ NTP-1, North City Treatment Plant
- √ NSF-2, North City Sludge Processing Facility
- √ NS-1/NRP-4B North City Tunnel Connector
- √ NRP-1, San Diego River Outfall
- √ NRP-4A, North City Pipeline
- √ NRP-2AB, East Mission Bay Pipeline, N & S
- √ NTP-5, Mission Valley WRP
- √ MS-1, CW Operations Network

- √ NRP-5ABC, Mission Valley Pipeline, E, C & W
- √ NSP-2ABC, Mission Valley Raw Sludge, S, C & N
- √ STP-1, Otay Valley Water Reclamation Plant
- √ SRP-1 ABCD, Otay Valley Pipeline, E, NC, SC & S
- √ STP-2 South Bay Water Reclamation Plant
- √ SSF-1 South Bay Sludge
- √ SS1-3 South Bay Conveyance System
- √ Santee Water Reclamation Plant[4]
- √ Santee Sludge Pipeline

Designers have proceeded with full design and a majority of projects are at or near completion of the design effort. All previously scheduled design work is on schedule. Following is a summary of the current status of implementation of the projects in the Consumers' Alternative.

Plants

• NTP-1 North City Rec. Plant	100% design completed C.M. preparing contract package
• NSF-1 North City Sludge Proc. Fac.	10% design completed
• NSP-1/NSF-1 FIRP	10% design completed
• Pt. Loma Digester Expansion	Design contract notice to proceed issued
• Pt. Loma Facility Repair	10% - Predesign report completed
• SSF-2 South Bay Sludge Disp.	Conceptual site layout prepared - Phase II

Pipelines

• NRP-2AB East Miss. Bay	90% design completed 90% design review completed
• NS-1 Tunnel Connection	60% design completed 60% design review completed
• NRP-4 North City Effluent Pipeline	90% design completed 90% design review completed
• NRP-3 Rose Canyon Trunk	100% design completed Project on hold[5]
• NSP-7 Centrate Extension	Design contract awarded

4. Since the completion of the Santee projects' predesigns, the responsibility for these projects has been transferred to Santee for further funding and completion.

5. Project on hold due to significant archeological sites that require mitigation.

Outfalls

• NRP-1A/B San Diego Riv. Outfall	50% design accomplished before termination[6]
• SOP-2 Pt. Loma extension	Project under construction - on schedule and within budget
• Pt. Loma parallel outfall	Design contract in negotiations[7]
• SRP-2X/3 South Bay Outfall Extension	Projects currently under final design
• SRP-2 South Bay Land Outfall	Pipeline construction completed Mitigation monitoring started[8]

Comnet

• MS-0, 1, 2 WW Oper. Net	Project has been reduced in scope due to Consumers' Alternative Design contract under renegotiation
• MS-3 Metro Oper. & C.C.	Project currently on hold[9]

Other Projects

• Pt. Loma So. Effluent Connection	Construction commenced March 1993
• Pt. Loma Sedimentation Basins 11-12	90% design complete
• Pt. Loma Access Rd. upgrade	90% design complete
• Pt. Loma Digester N1+N2 Repair	100% design complete
• Pt. Loma Scum Removal System	Design contract negotiated
• North Metro Interceptor	Design contract negotiated
• Penasquitos Canyon Interceptor II	Preliminary design completed
• Pump Station 65 + Force main	100% design complete
• Carmel Valley trunk sewer	100% design complete
• Sorrento Valley Watermain Relocation	100% design complete
• Trucked Liquid Waste Disposal	Predesign report completed
• South Metro interceptor Ph I	100% design completed
• South Metro Interceptor Ph II	Commencement of design planned for 1994
• E. Mission Gorge P.S. & Force Main	Construction completed
• Pt. Loma Sand/Grit removal tank	Commencement of design planned for 1994
• Pt. Loma Water Tank & Pipe	Commencement of design planned for 1994

The construction of three projects has been completed. These are the pressurized sludge line from the Point Loma Treatment Plant to the Sunset Cliffs Bridge (not listed above), the East

6. The San Diego River Outfall plan was abandoned in favor of rerouting to the Pt. Loma Outfall.

7. A new parallel outfall is being planned as a deep tunnel from the San Diego outfall head works.

8. Monitoring is being performed by IBWC as a function of its plant program.

9. Project will be built, but final configuration and location on hold pending Court decision on Consumers' Alternative.

C.3 RECLAMATION PLANTS

A key component of increasing wastewater treatment capacity is the development of water reclamation plants that will treat wastewater to tertiary level and, thus, produce a marketable product suitable primarily for irrigation applications. The Consumers' Alternative includes a plan for the initial Phase I construction of one 30 million-gallon-per-day ("MGD") wastewater treatment and reclamation plant in the North City area, upgraded to 55 MGD by 2050. Ultimately the system will include three additional reclamation plants at Mission Valley, Otay Valley and Santee (built by others) with a total tertiary treatment capacity of 100 MGD or approximately twenty-nine percent of the total system capacity of sewage flow.

The water reclamation plants will be strategically located near sources of reclaimable water and reclaimed water demand, and will supply reclaimed water through a system of transmission pipelines. Excess treatment plant effluent will be piped through effluent lines to the Point Loma ocean outfall.

An objective of the water reclamation plants and distribution system is to develop a treatment system where there is sufficient market to beneficially reuse 50% or more of the total flow through the plant on an annual basis. The November 1992 report on Reclaimed Water Distribution System concluded that, "Anticipated wastewater salinity levels may have a significant effect on the marketability of reclaimed water. Without effective brine control measures and a limit on raw water salt concentration, opportunities for reuse are restricted." Given these restrictions a conservative approach has been undertaken to initially construct and implement one reclamation plant and gauge the success of solving the problems and effectively selling the reclaimed water before constructing additional reclamation plants.

Even though reclaimed water is currently more costly than existing sources of water, such as the existing potable supply, or water conservation, it is a very desirable option particularly considering the future availability of, and the high costs associated with other options, including Central Valley transfers or desalination processes.

C.4 CAPACITY

Uncertainty currently exists concerning the level of capacity necessary to meet projected sewage flows of the existing and future Wastewater System. Recent measurements have indicated a reduction of sewage flows from those forecast during the earlier planning phase. This is caused primarily by two factors, water conservation and the recent drought, which have severely reduced consumption and infiltration. However, a 1991 preliminary SANDAG Series VIII[10] population forecast predicted a much higher future population, which would translate into much higher sewage flows. This has been tempered somewhat by a 1992 revised preliminary SANDAG Series VIII population forecast, depicting the impact of the current recession, and portraying a

10. SANDAG is the San Diego Association of Governments. This association sponsors regional planning projects and related studies. One such sponsored study is of projected population growth and demographics now in its eighth version and referred to as Series VIII.

future with less population growth. Even so, the latest population projection still represents an increase of 8.5% over the Series VII projections used in the Project Report. The Wastewater System has built-in flexibility to adjust to either increases or decreases in the planned flows by adjusting schedules and changing capacities.

C.5 VALUE ENGINEERING AND CONSTRUCTABILITY REVIEWS

Value engineering and constructability reviews are effective techniques that help maximize value and reduce construction cost risk. These special techniques have been applied to nearly all of the Consumers' Alternative design products.

Constructability reviews aid in controlling cost by identifying design flaws while the drawings are still on the table rather than surfacing in the course of construction when they are far more costly to rectify. There is the additional benefit of minimizing the potential for delays and other disputes and, if the constructor has greater confidence in the design, obtaining more favorable bids at the outset.

It is planned to value engineer the projects at their 10 and 30 percent completion levels (HVAC designs at the 60% level) and to perform constructability reviews at the 30, 60 and 90 percent completion levels. This level of review is more than adequate. The Team has concluded that it may not be necessary to perform a constructability review at both the 30 and 60 percent levels. At both of these levels the reviewers are evaluating concepts since the details are not available to perform a full constructability review. As an alternative, the Team recommends that the City consider conceptual constructability review at either the 30 or 60 percent level.

C.6 RESIDUALS MANAGEMENT

Processing and disposing of sludge for a large and extensive wastewater system utilizing efficient, effective, environmentally sound and publicly acceptable methods is a monumental task. For several years, the City has successfully used private contractors to haul away all sludge dried at Fiesta Island. The City's current contractor sells the sludge for agricultural uses, reporting 100% reuse of all hauled sludge.

The City has a policy of maximizing use of the sludge, which was adopted to encourage the beneficial reuse of this organic by-product. To optimize the opportunities for beneficial use as a means of final disposal, the Clean Water Program has selected a new site at Miramar Naval Air Station for the processing of sludge and dewatered sludge, with sufficient land area to accommodate final processing into a marketable product. The Clean Water Program plans to implement a more diverse program of beneficial reuse incorporating the latest technology in this field. To identify and select a method of final disposal, the City has solicited statements of qualifications from private firms and proposed technologies to achieve the final disposal.

The city received substantial interest from the market place, and has narrowed the field to eight firms representing three distinct technologies. The Clean Water Program expects to conduct detailed reviews, including offers from firms to set up pilot projects, and will be selecting one

or more firms to develop the final disposal process. Utilization of several contractors within the biosolids program will improve the reliability of beneficial reuse and thereby mitigate or eliminate land disposal issues. An emergency backup land disposal site is currently being planned to be available should the beneficial use be inadequate to dispose of all the sludge.

The baseline sludge management plan developed by the Clean Water Program addresses all of the key parameters and concerns pertaining to sludge handling in a satisfactory manner. Siting of plants and facilities, regulatory changes, privatization opportunities, co-disposal options and beneficial reuse have been, and continue to be, properly addressed by the Clean Water Program.

C.7 PUBLIC AWARENESS

The Clean Water Program has developed illustrations, graphs, renderings and models to better inform the community of various special features planned for the facilities. Working with the public in this manner is an assertive effort on the part of the Clean Water Program to respond to and satisfy the concerns voiced during public hearings and other public information forums. In recognition of public concerns regarding potential odor problems, the Clean Water Program is working with the public to understand the potential odor problems and to develop design strategies to limit odors from escaping the plant sites. As part of this effort, the Clean Water Program has conducted detailed odor prediction and odor dispersion modeling studies of each site. In general, the Clean Water Program has explained, and presented in an understandable manner, plans to make all of the facilities amenable to the community by blending architectural features in with the surroundings and to control odors and noise.

D. Conclusion

The selection of projects for inclusion in the Consumers' Alternative is a vital function reflecting the critical decision-making process of the City. Thus, having examined the purpose and intent of the Consumers' Alternative and the Project Report, the Team concludes that the City has identified the needs of the Wastewater System for the coming decade and beyond and the means of satisfying these needs through the construction of new treatment plants, pipelines, and associated facilities and the upgrading of existing facilities. Further, the City has selected an economic, effective program of capital improvements, known as the Consumers' Alternative, that the Team believes to be a viable solution to its wastewater handling needs.

IV. SCHEDULING

A. Introduction

The Clean Water Program has developed a number of schedules that encompass the planning and conceptual effort of its staff. Schedules have been devised for not only construction but also for design, land acquisition, environmental impact statement investigation and report preparation, material and equipment acquisition, funding, manpower planning and other overall program elements for which timing must be considered. These schedules were made available to the Team for review. For the purposes and intent of this Report, the Team's evaluation focused on design and construction scheduling.

The Clean Water Program developed facilities schedules using a phased approach consistent with the functional requirements and the facilities start-up goals of the Consumers' Alternative. Most recent schedule documents detail the first phase of planned activities from 1991 through the year 2003. In this first phase, ninety percent of the construction will be completed between now and 2003. In Phase II, additional facilities for secondary treatment, water reuse and sludge handling are planned through the year 2050, however, these were not within the scope of this evaluation.

The Team's review and analysis of the Phase I schedule for the Consumers' Alternative assumes that labor and capital funding resources continue at present levels. Further, it is assumed that no force majeure events occur to interrupt the implementation of the Consumers' Alternative.

B. Review of Scheduling Techniques

The techniques used to develop the schedules and documents discussed above evolved from the Clean Water Program's initial planning efforts through the development of the Project Report. The scheduling techniques that have been used encompass the following:

- Master planning and scheduling of the overall project requirements into major subsystems that can be effectively managed at a senior management level. Combined into a single document, this was identified as the Level I Schedule.

- Project control scheduling for further definition of project subsystems - this level of work product has been identified as Level II Scheduling.

- Project activity scheduling for detailed definition of elements of various activities and tasks that when combined define the subsystems - this level of detailed work product has been identified as the Level III Scheduling.

- Integrated Budget and Schedules Monitoring.

The three levels of scheduling are discussed in Subsection C.2 below.

These scheduling techniques have been implemented using industry-recognized computer-based scheduling software. As schedules are produced, they are monitored and updated on a continuing

basis. At present, the Clean Water Program produces two distinct products (evolved as a result of the ongoing effort to update and refine the program): a Master Program Schedule/Budget Control Report and detailed project schedules of Level I and Level III scheduling for fiduciary monitoring and adjustment.

The documentation has been found to be both comprehensive and usable by all users and reviewers. Schedule documents include presentation of bar charts, milestones and critical activities in a logical sequential order for the master program schedule, detailed project schedules and cost-loaded schedules. To date, the most detailed level of work product reviewed by the Team is Level II scheduling.

C. Application of Selected Scheduling Techniques

C.1 METHODOLOGY

A calendar-based chronology is used to phase the separate facilities through design, construction, start-up and operation. The general planning has allowed for phasing of facilities in a manner that contemplates construction and start-up of the facilities as the anticipated demand for increased capacity and service arises. In addition, the schedule is cost-loaded, a technique of tying cost to scheduled work, which generates continuous updated cash flow projections over the period of construction. Any deviations in the properly updated schedule will also provide adjusted cost projections.

The projects are scheduled to ensure the achievement of project target dates or milestones for conveyance, primary and secondary treatment, reclamation, and sludge disposal. Each of the facilities have been scheduled and adequately phased for design, permit procurement, bidding, construction and start up. Sufficient time has been allocated that will allow completion of each task and provide flexibility to adjust the schedules for changed conditions or to accommodate activities that may deviate from the schedule.

Summary Schedules, presented as bar charts, for projects that are planned, designed and constructed by the Clean Water Program are included as Enclosures IV.C-1 and IV.C-2.

C.2 APPROACH TO TASK IDENTIFICATION AND SCHEDULING

The Clean Water Program has established three definitive levels of scheduling to meet the specific needs of the program's management and to accommodate future scheduling needs of the designers and contractors yet to be engaged. The three levels are noted below.

Level I Schedule - Overall Master Program Schedule

This level consists of the master program schedule. It has evolved from the established program milestones, the participating cities' programs, and the anticipated planning and funding requirements for the Clean Water Program. Major program elements were identified, project milestones were established and regulatory reviews and compliance were identified. In addition, manpower resources and capital requirements were established, public hearings were held and pertinent notices were completed. Level I scheduling has been completed.

Level II Schedules - Predesign Schedules; Summary and Design; Procurement and Construction Schedules; and Summary Start up and Testing Schedules

Level II schedules more precisely defines the tasks to be accomplished through a more detailed identification of the activities to be calendared throughout the project for the two major categorical systems. The predesign schedules, summary design schedules and detailed subsystem schedules and associated subsystem elements are included in the Level II schedules. Detailed schedules for activities related to elements of the subsystems have been assigned time frames and dates for completion. The Level II schedules are updated quarterly, reflecting the most current knowledge and understanding of the Clean Water Program staff. Level II schedule documents consist of summary and detail bar charts and total float and logic diagrams. These schedules include costs from the City-approved CIP budgets. Level II scheduling has been completed.

Level III Schedules - Detailed Task Schedules and Detailed Task Activities

Level III schedules will be the detailed schedule of each task required to accomplish the activities that accompany the design, permit procurement, bidding, construction and start-up of each element of a subsystem. The Level III effort will represent a precise detailed scheduling of each task or activity including identification of specific resources, manpower, and construction management control. Currently, Level III scheduling has been completed for nine of the Consumers' Alternative projects and eight of the Metro projects.

C.3 COMPUTER SYSTEM ANALYSIS AND EVALUATION

A computerized system provides input, control, monitoring and output of data for the scheduling of the Clean Water Program. The scheduling software package is "P3" by Primavera Systems, Inc.. The software is well recognized and commonly used within the construction industry. The P3 system is broad in its depth of application and allows for flexible input and output of information and the exchange of data between program elements to rapidly allow the Clean Water Program to determine the impact of activities upon each other and the overall schedule and budget. Currently, the Clean Water Program produces the following P3 generated documents:

Master Program Schedule/Budget Control Report
Level II Project Schedules for the two major categorical systems
Level II Cost-Loaded Schedules

As contractors commence their contracts, the P3 system will be used to produce the Level III schedules and associated subheaded schedules as they are developed.

C.4 COMPARISON TO OTHER PROGRAMS

Historical comparison of the schedule for the Clean Water Program with those of other multi-city and single city jurisdictions provided the initial benchmark for rating the achievability of the proposed schedule. Programs of like budgets, service areas, project life and capital rationing keyed to project milestones have been accomplished using the same methodologies for overall project planning and detailed schedules as those utilized by the Clean Water Program. These

include facilities constructed in Northern, Central and Southern California and this information is readily available in other literature.

D. Conclusions

D.1 METHODOLOGY

Based on evaluation of the scheduling methodology the team has concluded that the Clean Water Program has adopted a clear, focused, logical and effective approach to scheduling. The approach adequately addresses the important issues of task identification, monitoring and control procedures, and resource allocation. The Clean Water Program's scheduling methodology is reasonable and its logic networks and total float reports provide clear identification of tasks, including critical tasks, and prompt recognition of deviations and variations to assist the Clean Water Program in monitoring and controlling the progress of the program.

D.2 ACHIEVABILITY OF THE PROPOSED SCHEDULE

From examination of the scheduled tasks, the detail included on the summary schedule (see Exhibit IV. D-1) and the separate detailed project schedules, the Team concludes that the Consumers' Alternative schedule is achievable within the time constraints established for the program. The time frames provided for in the schedules are reasonable and attainable. Variations in future capacity or the timing of property and specialized equipment acquisitions can be accommodated within the duration (time for task completion) of events scheduled.

V. ORGANIZATION AND MANAGEMENT STRUCTURE

The success of the Clean Water Program will depend to a certain extent on its staffing, organization and management. The High-Point Team has reviewed the current and projected organization and management structure of the Clean Water Program to determine if it will be sufficient to fulfill the program's main objectives; namely, to design, bid and construct the proposed Consumers' Alternative facilities. Section VI evaluates the adequacy of proposed staffing levels for operation and maintenance of these facilities once they are built.

An element of the Team's review of the proposed organization and management structure was to determine how this structure will fit into and operate as part of the newly created, State-enacted, San Diego Area Wastewater Management District (the "District"). The Team has reviewed the City's plan for this transition and assessed the adequacy and completeness of this planning effort.

A. Organization and Management

The Team examined the adequacy of current and proposed organizational structures and staffing plans to implement the design, bid and construction programs of the Clean Water Program. The Clean Water Program organization that will be established to construct the Consumers' Alternative facilities will be structured and will function the same regardless of whether the organization exists as part of the new District or as a department of the City. The analysis of this structure is presented below.

A.1 ORGANIZATIONAL ISSUES

To successfully achieve the goals of the Clean Water Program, the City must be able to perform or proceed with a number of tasks over the course of the next few years. First and foremost, the City must maintain the operation of the Metro System continuously without diminishing capacity. Disruption of service, a degree of which is inevitable, must be minimized and controlled. New facilities must be designed, built, and brought on line to replace or supplement capacity. Introduction of these new facilities must be phased to make effective use of resources — human, financial and material — in a timely manner so as to meet anticipated growth in capacity requirements. As described below, the Clean Water Program is organizationally structured to accomplish the above objectives.

The Clean Water Program has two primary components. One part of the program exists for the purpose of designing, bidding and constructing the new facilities. This element will diminish or disappear once these facilities are completed. The other part of the program involves planning for the operations and maintenance of the facilities as they come on line.

Several Clean Water Program capital improvement projects have been funded and are being built under the Water Utilities Department Engineering Division's management. The Engineering Division, for example, is building the Rose Canyon Interceptor. Operation and maintenance currently is the principal function of the Water Utilities Department Metro Division's

management. Its organizational structure is appropriately oriented toward that end. Current planning requires operations personnel to be on site six months prior to full operation, during equipment testing and start up, so that operating staffs will be fully trained and competent to run the facilities before the first day of operation. Section VI presents in greater depth the Team's analysis of operations and maintenance staffing of the program.

Organizational planning has been affected by significant CIP changes such as the shift from Alternative IV to the Consumers' Alternative. Management flexibility has been required to accommodate changes in program scope such as the rerouting of the San Diego River Outfall to the similar deep tunnel Point Loma Outfall. Over the next ten years and subsequently during Phase II, the commencement and completion of distinct phases of construction and the associated staff buildup and reduction, must also be considered in effective organizational planning. Staffing of the Clean Water Program peaked early last year when Alternative IV was under consideration. Since that point, there has been a reduction of staff, most notably within the Program Manager's ranks. It is expected that as progress is made from predesign through design, construction, and finally close out, some divisions will shrink and some will increase in staffing.

The establishment of a definitive organizational plan has been complicated by more than the changes in direction and scope of the Clean Water Program outlined above. At the present time, an important consideration of organizational planning is the final form of operation of the District.[11] Despite the uncertainty of future program direction, Clean Water Program management has considered the development of an organizational structure based upon a full service District scenario.

The graphic representation of the full service District scenario, entitled the San Diego Area Wastewater Management District 1995 Organizational Chart (Exhibit V.A-1), illustrates the merging of the Metro System and the Clean Water Program organizational components. As denoted, most operations, maintenance, and field divisions will come from the Water Utilities Department Metro Division. Engineering, construction and program financing divisions will come from both the Clean Water Program and the Metro Division. This structure is suitable for a full service District operating the Consumers' Alternative planned facilities. No staffing levels have been ascribed to the 1995 Organizational Chart; therefore, no assessment of adequacy can be made by the Team at this time.

The Clean Water Program, whose primary responsibility is to plan, design and construct facilities, has prepared a detailed planned organization plan of its Construction Management ("CM") Division (see Exhibit V.A-2). The Team specifically reviewed this organizational structure. Originally conceived during the Alternative IV planning, the structure shown in this chart reflects the staffing needs envisioned for Alternative IV projects, including the planned mix of City staff and consultants. Under the Consumers' Alternative, the same structure will be implemented but with fewer branch lines since the Consumers' Alternative consists of fewer projects. Under the

11. Discussion of the District is presented in subsection C that follows.

Consumers' Alternative, positions are only filled to the extent that they are needed. For this reason, this structure is viable for the current program.

This organizational structure is similar to that of large multiproject construction management systems. Personnel have specific responsibilities for a defined project or projects. While it is not common to have consultants staff positions as high in the organization as shown, it has been done in other major programs. Examples of high-level staffing by consultants in municipal agencies are the Los Angeles Clean Water Program, the San Francisco Clean Water Program and the Boston Harbor cleanup program.

A.2 PROJECT MANAGEMENT

The Team has seen evidence of both proactive and reactive forms of management throughout the course of the investigation. Response has been swift and positive by those members of the Clean Water Program staff who have exhibited reactive management. Key senior managers have taken suggestions and new ideas, evaluated their benefits, and if warranted, implemented them.

More importantly, the management of the Clean Water Program is proactive, anticipating the needs and problems of the program before they occur. Based upon interviews and reviews of various documents the Team has observed that, in the past year, changes in program management techniques and practices have occurred. For example, the program has instituted an extensive document control and identification system. This system was given considerable thought prior to implementation, resulting in an efficient and effective system. Implementation of this system is indicative of the attention that Clean Water Program staff gives to all aspects of program control and management.

A.3 PROJECT IMPLEMENTATION RESPONSIBILITIES

A twelve-page matrix describing the roles of the various program Participating Agencies regarding sixty-four distinct tasks covering design, bid, and construction phases was finalized on August 1, 1991. The preparation of this document exhibits good management practice of assessing needs and assigning responsibilities. It sets forth in writing, for all those involved with the Consumers' Alternative, how each division will support or take the lead for a specific task.

In June 1992, the Clean Water Program issued a revision to the matrix affecting the construction phase — design work is either complete or well along, and responsibilities for this phase of the program have been well established. The principal change in the revised matrix is that the responsible participant is defined by functional divisions rather than by City department or consultant entities. For example, the tasks to be performed by the Program Management Division could be carried out by either City staff or its Program Manager consultant.

A table has been prepared that indicates the primary Clean Water Program division responsible for each of thirty-six specific tasks during the construction phase of the program. This is shown in Table V.A-2.

A final observation is that the City's Construction Management Division will be heavily utilized from this point in time on through start-up of the various plants. Beginning with the construction of the North City plant, significantly more manpower and resources will need to be utilized from this Division. The Division will not only be responsible for a great number of the construction phase tasks but it will be responsible for the oversight of the Construction Manager consultant as well. Clean Water Program management is aware of the substantial role of this Division and will provide support as needed. If the proposed organizational plan is implemented, the Construction Management Division will be adequately staffed and organized to meet its projected responsibilities.

Responsibility Assignments - Construction Phase

Phase	CM	KM	PM	Metro	SS
Preconstr. Conference	X				
Contract Admin.		X			
Status Reports	X				
Contractor Meetings	X				
Permits			X		
EOCP Program		X			
Design Consultant Services			X		
Inspection	X				
Overall Sched./Cost Control	X				
Ind. Proj. Sched./Cost Control	X				
Testing	X				
Environmental Mitigation	X				
Equipment Testing	X				
RFI	X				
Change Orders	X				
Progress Payments	X				
Surveying	X				
Shop Drawings			X		
Record Drawings			X		
Payroll Records	X				
Safety	X				
Claims	X				
O & M Manuals		X			
Bus./Emergency Response Plans	X				
O & M Safety				X	
Maintenance MIS				X	
Parts Tracking				X	
Human Resources				X	
O & M Training				X	
Start up	X				
Final Report	X				
Record Files	X				
Substantial Completion	X				
Public Info. Program			x		
Cash Flow					X
S.A.D. Formation					X

Table V.B-1

PM - Program Management Division
CM - Construction Management Division
KM - Contract Management Division
Metro - Metropolitan Mgmt. Division
S.S. - Support Services

B. The San Diego Area Wastewater Management District

While the facilities planned for construction under the Clean Water Program are primarily within City limits, wastewater influent is contributed to the wastewater system by 15 neighboring cities and Participants Agencies. Under the current form of ownership and operation, the City accepts and treats wastewater from the Participating Agencies and charges them a contractually determined fee. However, with the anticipated expansion of the Metro System through the construction of new facilities, at current estimated costs and correlating rate increases, the San Diego Area Wastewater Management District (the "District") was officially formed on January 3, 1993 in order to provide more equitable decision-making and financial contributions by the Participating Agencies.

B.1 SENATE BILL NO. 1225

The District was created through an act of the State Legislature and signed into law by the Governor on September 22, 1992. (Senate Bill No. 1225) This bill established the District within San Diego County to include the Cities of San Diego, Chula Vista, Coronado, Del Mar, Imperial Beach, La Mesa, National City, and Poway; the Sanitation Districts of Lemon Grove, Lakeside, Alpine, and Spring Valley; Wintergardens Sewer Maintenance District; Improvement Districts of Padre Dam Municipal Water District; Otay Water District and other San Diego County agencies.

Analysis of the bill indicates that it has been well considered and is thorough. No provision or group of provisions appear to be vague or conflicting. Section 3 of the bill states:

> The Legislature finds and declares that this act ... is necessary because of the unique and special wastewater management problems in the area included in the district. It is, therefore, hereby declared that a general law cannot be made applicable to the district and that the enactment of this special law is necessary for the collection, treatment, storage, disposal, and reuse of that water for the public good and for the protection of life and property therein.

While the above provision gives justification to the creation of the District, another provision is included for the purpose of ensuring its validity and superiority over local city charters and ordinances, including the Charter of the City of San Diego. Section 801 states:

> This act applies to any charter city within the district *even if the act is inconsistent with the charter of the city, or any amendment to the charter*, because the transportation, treatment, disposal, and reuse of wastewater within the district are matters of statewide concern.

The remaining provisions of the bill define the means of governance of the District, its authority, and, specifically, its authority to raise funds, assess fees and penalties, and to contract for construction, operation and maintenance of its facilities. Article 3 defines the District board's composition and representation. Article 4 sets down the specific powers and authorities of the District including Section 417 which states the District's authority to enter into contracts for construction of facilities. Other sections address property acquisition, lease and disposal. The

District's authorization to obtain financing through the issuance of bonds is detailed in Article 5. The District's ability to assess and collect taxes and user fees is stated in Article 6 of the bill.

It should be noted that only the ownership and operation of the Metro system and administration of the Clean Water Program is affected by the creation of the District. The City will continue to retain responsibility for and operation of the Municipal System.

B.2 THE CLEAN WATER PROGRAM AND THE DISTRICT

District Organization

As previously noted, the Team was presented with a proposed 1995 Organization Chart (Exhibit V.A-1) defining an administrative and operating organizational structure and received a briefing on the anticipated staffing plan and anticipated issues associated with a transition from City to District management and employment. It was emphasized, however, that this was only a structure devised to administer, manage and operate a full service District. Implementation of this structure, or a variant of it, will depend upon the final operating form of the District which has yet to be determined. The 1995 Organization Chart principally represents the projected staffing positions (without number of staffing) to administer, operate and maintain the District and its facilities. Specific comments regarding O&M staffing can be found in Section VI.

Transition Planning

The Team was briefed on the City's consideration of various transition items such as the transfer of retirement and benefit plans for City employees who would be transferred to the District. A bound document was reviewed that collates the various memoranda, correspondence and graphics which have been prepared to address these transition issues. The transition has been well considered. To illustrate the City's transition planning, an extensive list of services that are currently provided by various City departments has been developed in anticipation of the need for the District to reacquire these services.

Assumption Regarding the Transition

At present, the City and the Participating Agencies have appointed members to the District to discuss and facilitate the future operation of the District. There is no assurance at this time that the operation of the District will be implemented. It is therefore assumed for purposes of this Report that the City will continue to administer and operate the Metro System and Clean Water Program.

C. Conclusion

The current organizational structure of the Clean Water Program is adequate for the tasks of design, bid and construction of the Consumers' Alternative facilities. Should the Metro System and Clean Water Program become incorporated into a full service District, management has devised and will propose an appropriate organization and management plan.

Our evaluation of the current Clean Water Program's management and organization reviewed the skills, practice and professionalism of the City's staff and consultants. Based on this assessment, the Team expects that future program management will be adequate.

VI. OPERATIONS AND MAINTENANCE

A. Background

Our evaluation focused on current and projected O&M costs of the Municipal System, the Metro System, and the Clean Water Program as proposed by the Consumers' Alternative. This evaluation included comparisons of the City's Municipal System with cities of roughly the same population. We reviewed current (FY 1992 and 1993) and proposed (FY 1994) budgets and staffing for these facilities and assessed their adequacy and reasonableness. We also performed a separate derivation of projected future staffing and budget levels for FY 2003, based on data provided by the City. These projections were compared to the figures given in the Financing Plan, and were also evaluated for adequacy and reasonableness. This comparison is summarized in Table VI-1.

In order to assist in our evaluation of adequacy and reasonableness, we compared O&M budget and staffing projections to similar facilities in cities of comparable size to the City. Telephone surveys were conducted to obtain comparative data for equivalent sewer systems and treatment facilities in the western United States. Information was collected on primary and secondary treatment plants with design effluent capacities between 37 and 420 million gallons per day ("MGD") and reclamation plants with design effluent capacities between 6 and 80 MGD. Information was collected on the treatment processes used, staffing, and O&M costs for each of the plants. This information was used for comparison to the new facilities proposed for the Clean Water Program and the Point Loma Treatment Plant modification. A summary of the comparisons is given in Tables VI-2 and VI-3. A similar analysis was performed for the Municipal System.

A comparison of staffing and O&M cost estimates between the July 1, 1993 Financing Plan and the Project Report was performed to determine conformance to the Project Report. The comparisons are summarized on Tables VI-4 and VI-5.

B. Municipal Sewerage System

B.1 EXISTING SYSTEM

The Municipal System, as of 1992, included 2,480 miles of sewer lines and a number of major and minor pump stations. Fiscal year 1991/1992 transmission O&M costs were $14.67 million.[12] The O&M cost per mile of sewer is $5,917. Fiscal year 1992/1993 transmission O&M costs are projected to be $13.51 million. The decrease in transmission costs is due to a City-wide cost containment program initiated by the City.

Based on a 1992 sixteen-city survey conducted by the City of Phoenix, the City has approximately the same number of employees in the wastewater system per 1,000 customers as the average city, 2.23 employees per 1,000 customers for the City compared to a 2.34-employee

12. Water Utilities Department (City of San Diego) Actual FY 91/92 Budget.

average. The survey indicated that the number of miles of sewer main per wastewater employee in the City is 4.63. This is 21% lower than the survey average of 5.89 miles per employee. The overall annual wastewater budget per customer is 22% higher; $309.68 for the City vs. $254.24 for the sixteen-city average. It must be understood that these comparisons are based on all wastewater employees, including treatment and collection system employees. As will be indicated in Section VI C, the existing annual treatment facility costs and staffing compare favorably with other cities. This implies then, that the collection system annual costs are higher than the survey average. This is attributable to a higher level of staffing for the City collection system.

In general, we would assess that the existing Municipal System is adequate to serve the community. O&M costs are reasonable. The system, however, is more personnel intensive than other cities in the survey.

B.2 PROJECTED FUTURE SYSTEM

Based on estimates by the Water Utilities Department's Engineering Division, the City has constructed 140 miles of new sewer mains from 1987 through 1992, or an average of 28 miles per year. Projecting this rate of increase, the sewer system will have approximately 2,750 miles of lines in operation by the year 2003.[13] Assuming that population growth in the San Diego area continues at the rate projected by SANDAG, the Municipal System will adequately serve the community.

As part of the Consumers' Alternative, the Municipal System will be upgraded and expanded by replacement of a series of trunk sewers and the addition of a series of interceptors over the next few years. This refurbishment and enlargement of the system will increase O&M costs due to the increase in manpower and materials needed to maintain the expanded system. Since most of the proposed construction will be replacement of existing lines, the total length of the system will not increase significantly.

The Financing Plan does not break out O&M costs for the Municipal System for FY's 1992, 1993 or 1994. The total O&M costs for these years are based on actual and proposed budgets. The Team was able to obtain breakdowns of these budgets from City staff. Based on our evaluation, these costs appear reasonable for a system of this size. The proposed O&M budget of $30.74 million for FY 1994 uses an escalation rate of six percent (five percent inflation and one percent growth) to project O&M costs. The budget escalation was then reviewed by Municipal System personnel and adjustments were made for proposed changes to the system.

13. It should be noted that this is only a statistical projection and may not necessarily be the most appropriate method of projection. A more appropriate method may be a projection based on miles per capita increase, but this would increase the projection's dependency on the reliability of population growth projections. See Section IIIC.4 for a discussion of SANDAG population growth projections for the San Diego area.

Using the above inflation rate assumption and adjustments, the City projects O&M costs for FY 2003 of $51.937 million.

Overall, current O&M costs and the projected increases in O&M costs for the Municipal System to FY 2003 appear reasonable. As mentioned above, with current population growth trends, the system will adequately serve the area in the future.

C. Metropolitan Sewerage System

C.1 EXISTING SYSTEM

The projected O&M costs for FY 1993 for the Metro System are $53.4 million, which is $10.1 million lower than actual FY 1992 costs. This decrease is due to the cost of the emergency repair of the Point Loma outfall in the early portion of 1992. The cost to repair the outfall was approximately $17.4 million, a one-time cost. In addition, due to economic considerations, the City initiated stringent cost containment measures in FY 1992 in areas such as hiring, equipment purchases, travel and training, as well as instituting mandatory furloughs. Certain of these measures were continued into FY's 1993 and 1994.

The FY 1992 budget for the Point Loma facility, which was unaffected by the cutbacks for the most part, was approximately $28.0 million. This cost compares favorably with other primary treatment facilities surveyed on a cost-per-million-gallons-treated basis (see Table VI-3) for this same time period. The FY 1993 updated cost estimates for the Point Loma facility are $19.0 million. The decrease in costs is due to cost-saving measures undertaken by the City, as mentioned previously. The O&M costs for the Metro System are fairly well identified, and are reasonable. Staffing for the system is also reasonable.

C.2 PROJECTED FUTURE SYSTEM

The Consumers' Alternative is based on upgrading the Point Loma facility to 240 MGD of advanced primary treated flow using a high ferric chloride and polymer dosage to achieve ninety percent removal of suspended solids. In order to achieve this goal, the projected increase in O&M costs associated with this upgrade have been incorporated into the future budget projections. As part of the Consumers' Alternative, several major replacement and expansion projects will take place in order to increase the advanced primary treatment capabilities and capacity at Point Loma. These projects include the Point Loma Outfall Extension (scheduled for completion between February and August, 1994), the Point Loma digester upgrades (scheduled for completion in 1996), the design and construction of Sedimentation Basins #11 and #12 (scheduled for completion in 1997), the grit tank replacement (scheduled for completion in 1996), and the new Administration/Laboratory Building. The newest project connected to the Point Loma expansion is the Point Loma Tunnel Outfall ("PLTO"). The tunnel along with major trunklines will connect the North City Water Reclamation Plant with the Point Loma outfall, so excess effluent from the North City area can be discharged through the Point Loma outfall. Construction of the PLTO will eliminate the need to build the San Diego River Outfall. Due to the newness of the Point Loma Tunnel Outfall, O&M costs have not been included in the

Financing Plan. However, O&M costs have been retained for the San Diego River Outfall as part of the Metro Division budget, which implies that the Metro staff feels that these costs adequately depict the O&M costs of the new Point Loma Tunnel Outfall. This is a reasonable assumption.

Another major change in the Metro System is the phasing out of the Fiesta Island sludge drying program, currently scheduled to commence closing by December 1997, with final closeout continuing through FY 1999. The Fiesta Island Replacement Project ("FIRP") will be located with the Northern Sludge Processing Facility at the proposed Miramar Naval Air Station site. Budget and personnel for FIRP have been included in the Financing Plan.

The projected O&M costs for FY 2003 for the Metro System are $87.46 million. This projected cost is based on the proposed FY 2003 O&M costs developed for the existing Metro System. O&M costs for the Consumers' Alternative are estimated separately and discussed below. Except at Point Loma, the projected O&M costs of the system for FY 1995 through FY 2003 were developed by the Clean Water Program, with review by the Metro Division, based on estimated staffing and nonpersonnel expense ("NPE") equations. The NPE equations are based on the actual equipment power usage, maintenance schedules and chemical expenditures expected at the facilities as a function of expected facility flows. In developing the O&M costs for the Point Loma facility, actual O&M costs, as well as anticipated chemical dosages and capital improvements, were considered. This methodology is reasonable because it takes all known operational changes into consideration.

Staffing estimates for the existing Metro System for FY 2003 were also developed for the Financing Plan. These staffing estimates, while somewhat high, are based on the Consumers' Alternative program and current staffing practices. Staffing estimates were also given in the background information for the Fiesta Island sludge drying program. The Fiesta Island staff will be reduced in FY's 1998 and 1999 due to the closure of the facility. Staffing estimates for technical services were also given which include laboratory personnel, the industrial waste program personnel, as well as staff that handle regulatory issues and permitting. These staffing estimates are reasonable for facilities of this type and size.

D. Clean Water Program for Greater San Diego

D.1 DESCRIPTION OF PROPOSED SYSTEM

Section II of this report describes the proposed facilities and pipelines to be constructed in two phases under the Consumers' Alternative. Two of the proposed water reclamation plants, Mission Valley and Otay Valley, are part of Phase II (after the year 2020) of the program and are not included in this Report. The Santee Water Reclamation Plant also is not included since the City of Santee will solely build and operate this plant. Reclaimed water pipelines were not included because they are included in the Water Revenue Fund's O&M expenses, a separate funding entity previously described in Section V.

D.2 PROJECTED STAFFING OF FACILITIES

Staffing projections given in the Project Report, Financing Plan, and by the City are presented in Table VI-4. We were advised by the City staff that the staffing projections originally developed in the Project Report were deemed to be inadequate. The estimates were subsequently upgraded and have been continuously refined by the City staff.

For comparison purposes, we have included in Table VI-4 estimates of staffing for the proposed facilities based on the EPA publication, *Estimating Staffing for Municipal Wastewater Treatment Facilities.* It should be cautioned that the EPA methodology may yield staffing estimates which are low, since the cost curves utilized are based on the unit process approach. This approach does not take into account the need for additional technical and management personnel required to coordinate various processes and operations in a complex treatment facility. In addition, this document only provides direct data for facilities of up to 25 MGD capacity. Despite these limitations, this publication does contain data which is useful for comparison purposes.

As shown in Table VI-4, City staff has upgraded staffing estimates for the Financing Plan. Previously in March 1992, City staff had developed refined staffing figures for the Alternative IV projects. As shown in Table VI-4, the total staffing estimates prepared by the City in March 1992 are similar to the staffing estimates used in the August 1993 Financing Plan. The staffing estimates for the North City WRP are higher than the March 1992 estimates. This is attributed to reallocation of personnel as a result of the Consumer's Alternative. While not explicitly shown in the table, administrative staff for all facilities were grouped into geographical regions and were not included in the individual facility staffing estimates for March 1992. The administrative staff is now identified in the facility staffing figures which effectively increases the number of personnel at the North City WRP. This is a reasonable increase. Clean Water Program technical support staff has also been reduced as a result of the Consumers' Alternative. This is consistent with the decreased size of the system. Technical support staff includes laboratory personnel as well as engineering and permitting staff.

The estimation of staffing requirements is an ongoing process and will be further refined by the City as the Consumers' Alternative program is completed. The Team has concluded that the City's current estimates of staffing requirements are reasonable and adequate to ensure proper O&M of the proposed Consumers' Alternative facilities.

D.3 PROJECTED OPERATIONS AND MAINTENANCE COSTS

Projected O&M costs for FY 2003 for the Clean Water Program facilities reported in the Financing Plan are $53.2 million. These costs were developed by both the Program Manager in the Project Report and the City along with the Program Manager for the Financing Plan. The two sets of projected costs are compared in Table VI-5. Table VI-5 shows that projected O&M costs have increased significantly especially for the Northern Sludge Processing Facility/FIRP. This is reasonable due to an increase in estimated facility staffing and a more refined method of developing nonpersonnel costs.

For the Consumers' Alternative, the Clean Water Program has developed O&M nonpersonnel expense relationships for each facility. These relationships take into account the types of equipment at each facility, the amount of power needed to operate the equipment and chemical costs based on anticipated flows. A fixed cost for operating the facilities was also included since some operating costs are not flow related.

The Clean Water Program also developed a set of assumptions for developing the O&M costs which are clear and concisely presented. These assumptions are part of the cost equations and are included as background information to the Financing Plan.

As shown in Table VI-1, projected O&M costs were split into personnel costs and nonpersonnel costs. The personnel costs were derived using a staffing plan developed by the Clean Water Program for each facility and average labor rates ($45,000/year for plant and pump station personnel, and $40,000/year for Central Maintenance and Warehouse personnel). As previously discussed, the nonpersonnel costs were developed by the Clean Water Program using equations based on operating conditions and flow for FY 2003. The total was then escalated from 1992 dollars at an inflation rate of five percent to FY 2003. These projected costs, which were derived from raw data given to the study team by the City, were then compared to the values given in the Financing Plan. The results are shown on Table VI-1. The table shows that the costs derived by the Team were very similar to those in the Financing Plan. The Team concludes that the approach taken was adequate and reasonable.

O&M costs were also developed for trucking and disposal of sludge from Fiesta Island and the Northern Sludge Processing Facility/FIRP at an average hauling rate of $28.60/wet ton of sludge hauled (in 1993 dollars), which is the current cost to haul sludge from Fiesta Island. The Clean Water Program believes that this assumption is conservative since the sludge from Fiesta Island is 70 percent solids, while the sludge from Northern Sludge Processing Facility/FIRP is predicted to be 90 percent solids. The Team concurs with this assumption.

It is important to point out that there is variation in the O&M costs for the Central Maintenance and Warehouse Facility due to the way inventory at the warehouse is handled. In FY's 1996 through 1998, the nonpersonnel costs are much higher than in FY's 1999 through 2003. This is due to the fact that initial spare parts needed for the Wastewater System are considered a part of the warehouse operating budget until a project comes on line. After the system facilities come on line, the spare parts needed for that facility will be a part of the nonpersonnel costs of the individual facilities and will no longer be included in the warehouse's budget.

There are no major differences between the Financing Plan and the Team's derivation of the personnel and nonpersonnel costs. The Clean Water Program staff presented very concise, clear, and easy to understand background information to the Team.

D.4 ADEQUACY OF PROPOSED SYSTEM

It is our understanding that future flow projections were based on SANDAG population estimates. This is a reasonable approach for sizing future facilities. However, the adequacy of the size of these Facilities is dependent on the quality of the population estimates.

The Clean Water Program's method of estimating O&M costs by using cost equations is also reasonable. The use of these equations provides a consistent and reliable projection of future O&M costs.

The background information given to the Team was well documented and easy to follow. The indicated results for nonpersonnel expenses appear reasonable. Detailed O&M cost estimates for nonpersonnel expenses were prepared by the Clean Water Program for each new facility once the facility predesign was complete, and the updated estimates were incorporated in the Financing Plan.

E. Conclusion

O&M costs for the existing Municipal System are reasonable. The FY 1993 Municipal System projected O&M budget used in the Financing Plan is reasonable and has been justified by City personnel. Overall, the projected increases in O&M costs for the Municipal System to FY 2003 are reasonable. Given current trends in population growth, the Municipal System would be adequate.

O&M costs for the Point Loma facility are reasonable and compare well with other primary treatment facilities surveyed. Planned staffing for the facility is reasonable.

The projected O&M costs for the Metro System in FY 2003 are reasonable. The proposed budget is reasonable and takes into consideration all identified major changes to the system.

The projected O&M costs for Clean Water Program facilities are reasonable. The Clean Water Program anticipates a higher level of staffing than found in comparable water reclamation facilities in the western United States. This is attributable to current conservative staffing assumptions by the City. It is our understanding that Clean Water Program staff will continue to refine and streamline these staffing estimates as the Consumers' Alternative is implemented.

The Clean Water Program's use of cost equations for the nonpersonnel O&M costs based on the types of equipment at each facility, the power needed to operate the facility, and chemical costs based on anticipated flows is reasonable.

T VI-1

DERIVATION AND COMPARISON OF OPERATION AND MAINTENANCE COSTS FOR CLEAN WATER PROGRAM PROJECTS FROM BASIC DATA AND THE AUGUST 1993 FINANCING PLAN FOR FISCAL YEAR 2003

Facility	Design Capacity (mgd)	Expected Flow (mgd)	Staff[A]	Nonpersonnel Costs[B] (1992 $)	Personnel Costs[C] (1992 $)	Total Costs (1992 $)	Unit Costs ($/mg)	Total Estimated Escalated Costs (2003 $)[D]	Escalated Costs from July Financing Plan [D,E] (2003 $)
Existing Metropolitan Sewerage System Facilities									
Pump Station 64	—	32	10 [G]	$2,540,000 [I]	$450,000	$2,990,000	$255.99	$4,870,395	$4,870,000
Pump Station 1	—	87	16	$4,420,000	$710,000	$5,130,000	$161.55	$8,356,229	$8,356,000
Pump Station 2	—	197 [F]	19	$4,580,000	$840,000	$5,420,000	$75.38	$8,828,609	$8,829,000
Point Loma Advanced Primary	240	197 [F]	170	$21,002,000	$7,600,000	$28,602,000	$397.77	$46,589,644	$46,590,000
Pump Station 65/77	—	13	NS [H]	$650,000	$0	$650,000	$136.99	$1,058,782	$1,059,000
Technical Services	—	—	120	$3,600,000	$5,400,000	$9,000,000	—	$14,660,052	$14,660,000
Subtotal, Existing Metro Sewer System			335	$36,792,000	$15,000,000	$51,792,000		$84,363,711	$84,364,000
Clean Water Program Facilities									
North City WRP	30	30	66	$2,140,000	$3,100,000	$5,240,000	$478.54	$8,535,408	$8,535,000
Northern Sludge Processing	40	—	20	$440,000	$940,000	$1,380,000	$94.52	$2,247,875	$2,248,000
Fiesta Island Replacement Project	230	—	44	$10,430,000	$2,100,000	$12,530,000	$149.26	$20,410,050	$20,410,000
Point Loma Tunnel Outfall[J]	—	—	2	$75,000	$95,000	$170,000	—	$276,912	$277,000
East Mission Gorge Pump Station	—	22	8	$2,380,000	$360,000	$2,740,000	$341.22	$4,463,171	$4,463,000
Central Maintenance and Warehouse Facility	—	—	7	$250,000	$290,000	$540,000	—	$879,603	$880,000
Technical Services	—	—	19	$161,000	$931,000	$1,092,000	—	$1,778,753	$1,778,000
Trucking and Disposal[K]	—	—	0	$2,392,000	$0	$2,392,000	—	$3,896,316	$3,897,000
Subtotal, CWP Facilities			164	$17,268,000	$7,816,000	$26,084,000		$42,488,088	$42,488,000
TOTAL			499	$54,060,000	$22,816,000	$77,876,000		$126,851,799	$126,852,000

Notes:

- A Staffing numbers include administration, engineering, maintenance, operation, and power production personnel when the facility is completely staffed.
- B Nonpersonnel costs developed by the Program Manager and found on Tables H-3 and H-4 of the August 1, 1993 Financing Plan Background Information.
- C Personnel costs developed by the City and the Program Manager and found on Table H-5 of the August 1, 1993 Financing Plan Background Information.
- D Inflation rate of 5.0% was used by the City of San Diego and DSWA.
- E From Sewer Fund Financing Plan, August 1, 1993, Table 4-3A, "Metropolitan Sewer System Operation and Maintenance Expenses," and Table 4-4A, "Clean Water Program Operations and Maintenance Expenses"
- F Includes 4 MGD of recycle flow from NSPF/FIRP.
- G Includes staff for Pump Stations 65 and 77.
- H Staff included in staffing for Pump Station 64.
- I Assumed 78.3% of Pump Stations 64, 65 and 67 total electric cost (based on required BHP) and all personnel and miscellaneous fees charged to Pump Station 64.
- J Point Loma Tunnel Outfall is referred to as San Diego Outfall in Table 4-4A
- K This is cost of hauling dried sludge to the landfill at $28.60/wet ton of sludge, by a contractor.
- NS Not Specified.

Table VI-2

SURVEY PERFORMED DECEMBER 1991 THROUGH JANUARY 1992

WATER RECLAMATION PLAN OPERATION AND MAINTENANCE BUDGETS FOR SELECTED CITIES

City/Plant	Design Flow (mgd)	Actual Flow (mgd)	Total O&M Staffing	Number of Shifts	Direct Costs[A] ($)	Indirect Costs[B] ($)	Total Costs ($)	Personnel Costs ($)	Nonpersonnel Costs ($)	Unit Costs ($/mg)	Remarks
City of Phoenix - Secondary Treatment Costs (sludge handling costs were removed). No filtration at this facility.											
91st Ave.	150	135	98[C]	5	$6,326,491	$4,174,038	$10,500,529	$4,820,832	$5,679,697	$213.10	Budget for fiscal year 1992/1993.
23rd Ave.	37	31	4[C]	5	$1,366,870	$1,126,375	$2,493,245	$1,701,242	$792,003	$220.35	Budget for fiscal year 1992/1993.
Metro Denver Wastewater Reclamation District - Secondary Treatment Costs (sludge handling costs were removed). No filtration at this facility.											
Plant 1	188	150	257[D E]	5	$7,644,180	$6,239,351	$13,883,531	$7,560,010	$6,323,521	$253.58	Proposed budget for 1992.
Orange County Sanitation District - Secondary Treatment Costs (sludge handling costs were removed). No filtration at this facility.											
Plant 1	175	271 4[G]	371[D E]	5	$34,064,000	$9,122,000	$43,186,000	$19,286,000	$23,900,000	$435.95	Budget for fiscal year 1991/1992.
Plant 2	48			5							Total for both plants
City and County of San Francisco - Secondary Treatment (sludge handling costs were removed)											
Southeast	84	67	233[D E]	5	$17,741,525	$2,130,692	$19,872,217	$11,284,204	$8,588,013	$828.01	Budget for fiscal year 1991/1992.
City of Los Angeles - Reclamation Plants (sludge is not treated at these plants)											
LA/Glendale WRP	20	20	35[D]	N/A	N/A	N/A	$9,700,000[H]	N/A	N/A	$759.30	Budget for fiscal year 1991/1992.
D.C. Tillman WRP	80	55	115	N/A	N/A	N/A	$9,850,000[H]	N/A	N/A	$490.66	Budget for fiscal year 1991/1992
Los Angeles County Sanitation District - Reclamation Plants (sludge is not treated at these plants)											
San Jose Creek	62	57.9	31[D F]	5	$1,936,833	$1,206,714	$3,143,547	N/A	N/A	$300.16	Actual costs for 1/91 - 6/91
Los Coyotes	37	28.8	30[D F]	5	$1,431,797	$652,471	$2,084,268	N/A	N/A	$399 59	
Long Beach	25	18.7	18[D F]	2	$846,738	$401,988	$1,248,726	N/A	N/A	$368 90	
Whittier Narrows	15	12.5	12[D,F]	2	$561,151	$405,492	$966,643	N/A	N/A	$428.29	
Pomona	12	8.5	16[D F]	5	$482,309	$211,726	$694,035	N/A	N/A	$450.96	
City of Mesa, Arizona - Reclamation Plant (sludge is not treated at this plant)											
Northwest	8	4.5	7[D]	2	$525,966	$148,000	$673,966	$254,483	$419,483	$410.33	Budget 92/93. Used activated carbon for odor control.
City of Escondido, California - Secondary with Proposed Reclamation Plant (sludge handling costs are included)											
Secondary Plant	18	13	33[C]	5	$4,748,368	N/A	$4,748,368	N/A	N/A	$1,000.71	Budget for 1992/1993.
Proposed Plant	18		Same[C]	5	$1,066,600	N/A	$1,066,600	N/A	N/A	N/A	Estimated budget for proposed system
East Municipal Water District (Hemet, CA) - Reclamation Plants (sludge handling costs are included; sludge disposal costs are not included)											
Moreno Valley	16	10	15[C]	2	$1,491,872	N/A	$1,491,872	$534,587	$957,285	$408.73	Budget for 1991/1992.
Hemet	11	7	15[C]	2	$1,161,264	N/A	$1,161,264	$499,718	$661,546	$454.51	
Temecula	6.25	4	14[C]	2	$1,452,804	N/A	$1,452,804	$471,434	$981,370	$995.07	

Notes:

A Direct Costs include personnel services, materials and supplies, chemicals, utilities, gasoline, solvents, tools, etc.

B Indirect Costs include rental fees, odor control, professional services, outside laboratory services, groundskeeping, etc.

C Includes operation and maintenance personnel only.

D Includes administrative, laboratory, and operation and maintenance personnel only.

E Includes personnel for sludge handling.

F Maintenance personnel distribution between LACSD plants estimated by DSWA.

G Total for both Plant 1 and Plant 2.

H [illegible] include City of Los Angeles administrative overhead.

T VI-3

PRIMARY TREATMENT OPERATION AND MAINTENANCE BUDGETS
FOR SELECTED CITIES

City/Plant	Design Flow (mgd)	Actual Flow (mgd)	Total O&M Staffing	Number of Shifts	Personnel Costs ($)	Nonpersonnel Costs ($)	Total Costs ($)	Unit Costs ($/mg)	Remarks
City of San Diego (Advanced Primary Treatment and Primary Sludge Digestion)									
Point Loma	224	190	257[A]	5	$12,482,492	$15,490,875	$27,973,367	$403.37	Budget for fiscal year 1991/1992.
City of Phoenix (Primary Treatment and Primary Sludge Digestion only)									
91st Ave.	150	135	78.5[B]	5	$3,081,040	$5,974,980	$9,056,020	$183.79	Budget for fiscal year 1992/1993
Metro Denver Wastewater Reclamation District (Primary Treatment and Primary Sludge Digestion only)									
Plant 1	188	150	257[A,C]	5	$7,749,935	$5,194,694	$12,944,629	$236.43	Proposed budget for 1992.
Orange County (CA) Sanitation District (Primary Treatment and Primary Sludge Digestion only)									
Plant 1	175	271.4[G]	371[A,C]	5	$22,469,000	$22,926,000	$45,395,000	$458.25	Budget for fiscal year 1991/1992.
Plant 2	48			5					Total for both plants.
City and County of San Francisco (Primary Treatment and Primary Sludge Digestion only)									
Southeast	84[D]	60	233[A,C]	5	$11,284,204	$8,537,540	$19,821,744	$825.91	Budget for fiscal year 1991/1992.
City of Los Angeles (Primary Treatment and Primary Sludge Digestion only)									
Hyperion	420	310	325[E]	5	N/A	N/A	$39,870,000[F]	$352.36	Budget for fiscal year 1991/1992.

Notes:

A Includes administrative, laboratory, and operation and maintenance personnel.
B Includes operation and maintenance personnel only.
C Includes personnel required for secondary treatment.
D Dry weather treatment capacity only.
E Estimated on basis of 40% of current staff of 812 to eliminate contribution of HERS and Secondary Treatment staff.
F Estimated on basis of 45% of current budget to eliminate contribution of HERS and Secondary Treatment.
G Total flow for Plants 1 and 2.

Table VI-4

COMPARISON OF STAFFING ESTIMATES FOR FY 2003
FOR CLEAN WATER PROGRAM FACILITIES

Facility	Size (mgd)	Personnel Estimates			
		Project Report May, 1990	City of San Diego Refinement[1] March, 1992	August 1, 1993 Financing Plan	EPA[2]
North City WRP	30.0	35	48	66	35
Northern Sludge[3]	40	NS	NS	20	NS
FIRP[4]	230	NS	NS	44	NS
Northern Sludge Processing/FIRP	270	44	54	64	NS
Northern CoGen	—	NS	10	NS[5]	NS
East Mission Gorge Pump Station	22	NS	NS	8	NS
Central Maintenance and Warehouse Facility	—	NS	8	7	NS
Technical Support	—	NS	54.5	19	NS

Notes:

NS Not Specified.

1 City of San Diego, "Updated Staffing Estimates" obtained from Alice Benson in March, 1992.

2 U.S. Environmental Protection Agency, "Estimating Staffing for Municipal Wastewater Treatment Facilities (1973)".

3 Thickening and digestion only.

4 Dewatering, drying, and loading of haul vehicles.

5 Included in Northern Sludge Processing/FIRP.

Table VI-5

COMPARISON OF OPERATION AND MAINTENANCE COST ESTIMATES
BETWEEN AUGUST 1, 1993 FINANCING PLAN AND PROJECT REPORT
FOR CLEAN WATER PROGRAM FACILITIES

Facility	Size (mgd)	Annual O&M Cost ($1,000,000)	
		Project Report [2]	Rate Case[1]
North City WRP	30.0	10.01	8.54
Northern Sludge Processing	—	13.20	2.25
Fiesta Island Replacement Project	—	NS	20.41
East Mission Gorge Pump Station	22	NS	4.46
Central Maintenance and Warehouse Facility	—	NS	0.88
Point Loma Tunnel Outfall	—	NS	0.28
Technical Services	—	NS	1.78
Tracking and Disposal	—	NS	3.90
Special Projects	—	NS	10.76
TOTALS		$ 27.62	$ 53.26

Notes:

NS Not Specified.

1 Operation and Maintenance Cost Estimates for Fiscal Year 2002/2003, Table 4-4A, August 1, 1993 Financing Plan.

2 Operation and Maintenance Cost Estimates for Phase 1, escalated from year 1990 dollars to year 2003 dollars using an inflation rate of 5%.

3 Originally for all pipelines and pump stations in the Alternative IV system.

VII. COST ESTIMATION

A. Review of Estimating Techniques

The draft version of the "Cost Estimating Guidelines" - Chapter 4 of the *Program Guidelines for Design Consultants* - has been utilized to develop cost estimates for the Clean Water Program. These guidelines, developed by the Clean Water Program staff and dated November 21, 1991, are used to prepare the estimates (conceptual, preliminary and definitive) and to track and control project costs. The cost estimates that were prepared for the Clean Water Program have been compiled and presented in an organized manner and categorized into various logical groups such as treatment plants, pipelines, etc., allowing management to effectively track status and progress.

Preliminary estimated cost information was derived from a common data base; the R. S. Means *Heavy Construction Cost Data, 1990* ("Means"). This source was used regardless of the type of project - treatment plants or pipeline systems. Additionally, the Program Manager obtained quotations from local suppliers and contractors regarding costs and production rates for various pieces of heavy equipment in different types of construction operations. In addition to general historical data, results from similar specific pipeline projects which have been recently bid and/or constructed were also utilized.

A.1 ESTIMATING COSTS

Early in the conceptual stage of the Clean Water Program, primary estimates were derived from factoring similar historical cost data. Estimates based upon material quantities were first generated during the predesign phase. These estimates have been developed for each individual project on the basis of the quantities of needed materials, construction equipment rental rates, and construction activities taken from predesign drawings, details and specifications. Generally, such costs are an estimate of what a prime contractor would be expected to incur in constructing the facility or pipeline at a certain point in time.

The Clean Water Program cost and scheduling staff has scheduled construction and has escalated project costs through 2003. To escalate project costs to the time of construction, cost estimates were related to an Engineering News Record Construction Cost Index or ("ENR-CCI"). The ENR-CCI utilized for the 1990 costs referenced in the Project Report was 6000. Predesign estimates were then adjusted by escalating costs to the midpoint of construction.[14]

A prime contractor will typically subcontract substantial portions of work to specialty contractors. The Clean Water Program has made an allowance for markups that will occur on such subcontracts. Where subcontracts are likely to be utilized, subcontractors' markups have been

14. Escalating costs to the midpoint of construction simplifies the process of estimating future, long-term, inflated construction costs. The procedure assumes two conditions: 1) that expenditures will be symmetrical on either side of the midpoint, typically in a bell curve; and, 2) that inflation is constant over the life of the project. Given the limitations in accuracy in such large-scale projects, these assumptions are reasonable.

assumed to be the difference between total cost (including overhead and profit) and the total bare cost of material and labor as reported in Means. The Clean Water Program uses a range of 15% to 29% markup for subcontractors depending upon the type of work and the current assessment of the local economic conditions.

For the final element of direct cost, the Program Manager has added a ten percent markup to the above cost for overhead and profit and a markup of 7.5 percent for local and state sales taxes.

Once a contract direct cost estimate was obtained, additional global markups were added to account for various costs that can arise on a project. A ten percent allowance for additional direct cost was added to cover work items not detailed in the predesign such as millwork, miscellaneous sheet metal and carpeting. This allowance was dropped at the design stage since such items are included in the detailed designs and could therefore be estimated.

A twenty percent contingency markup on the net construction cost, distributing ten percent for design changes and ten percent for construction change orders, has been added for unanticipated refinement or changes in design and construction scope, and to allow for unanticipated differing site conditions.

Another thirty percent allowance for a classification of indirect but project-related costs identified as Engineering, Legal and Administrative Services Costs was added on top of these calculated costs. Finally, lump sum amounts, where applicable for site and right-of-way acquisitions, were then added. The figures for right-of-way acquisitions were provided by the City Property Department.

The adjustments discussed above are graphically displayed by the matrix presented in Table VII-1. The percentages presented previously are for estimates prior to final design. The matrix also presents the planned estimating adjustments through design and construction. As the estimates progress through construction, and as more information is known, the estimated markup percentages are refined.

To compile, sort and extend the estimates, the Clean Water Program utilized cost estimating software produced by *G-2 Incorporated.* The Means handbook direct cost data and the percentages of various allowance items were input to the program to obtain final costs.

Contingencies

The twenty percent markup for contingencies discussed above is intended to cover the cost of design growth and unplanned items that may arise during both detailed design and construction. In addition to unplanned items, there will remain unquantifiable yet foreseeable items that most likely will be encountered, such as groundwater problems, hazardous materials problems, adverse soil and weather conditions, utility obstructions, environmental mitigation and special insurance for freeways and railroads, as well as other unidentifiable costs which are correctly allowed via

the contingency. By allowing a provision for such contingencies, the Clean Water Program generates a conservative estimate of costs, thereby reducing the possibility of a funding shortfall.

Though half the amount is allowed in the design phase and the remainder during construction, the distribution is arbitrary and only actual performance will reveal the adequacy of the contingency markup. At this point in the progress of the program, however, the twenty percent contingency is reasonable.

Allowances

The general allowance of ten percent carried in the predesign cost estimates provides an allowance for elements of the work, such as the architectural elements, not normally quantified nor included in predesign. The team believes that for pipelines this is high, for treatment plants it may be low, but on average it would seem reasonable. For the projects in the design stage, consideration of this allowance is no longer necessary.

The thirty percent allowance for engineering, legal and administration overhead costs associated with the fulfillment of any construction contract is an allocation carried through all stages including construction. A breakdown of these costs was reported as follows:

• Administration	9.0%
• Construction Management	8.0
• Design	11.0
• Value Engineering	0.5
• Permits & Fees	1.5
TOTAL	30.0%

In a separate assessment of the above costs in which each element was estimated for the entire project (that is, for example, the entire administrative cost for the program was estimated), these total cost estimates were compared against total estimated direct construction costs. As a result of this subsequent and ongoing analysis the above breakdown has been further refined. The revised breakdown was incorporated in the FY 1993 Budget Summary which proportioned the allowance as follows:

• Program Management Pre-FY93	3.72%
• Program Management Future	3.12
• Administration - CWP	5.87
• Construction Management	7.06
• Design	10.89
• Value Engineering	0.38
• Permits & Fees	1.01
• City Forces	0.04
TOTAL	32.09%

Percentage mark-ups are summarized in Table VII-I on the next page.

TABLE VII-1

SUMMARY OF COST ADJUSTMENTS

PERCENT MARKUP ON MEAN'S BARE COST

	Project Report	Predesign	Design	Construction
Subcontractor		29	29[15]	29[15]
General Contractor		10	10	10
Taxes		7.5	7.5	27.5
General Allowance	20	10	0	0
Contingency	20	20	20	10[16]
Engineering, Legal & Administrative	30	30[17]	30	30
Right of Way	11[18]	11	11	11
Compounded Amount w/o Right of Way		191	162	142

15. During the Design and Construction phases the design estimates are used. Range is from 15% to 29%.

16. This adjustment may be reduced to 5%.

17. The 10/21/91 Budget Summary indicates that the adjustment is 32.06.

18. Lump sum amount based upon October 21, 1991 Budget Summary which is converted to a percent of the base.

A.2 SPECIAL ESTIMATING CONSIDERATIONS

While the Means data was utilized as the starting point for estimating construction costs, the costs obtained at this initial stage have been adjusted based on the experience of the Program Manager with similar projects. For instance, the Program Manager considered the cost of heating, ventilating and air conditioning (HVAC); electrical; and instrumentation and controls as a percentage of construction costs. While the percentages vary from plant to plant, the estimate for the North City treatment plant was based upon the following:

- Electrical	17%
- HVAC	5%
- Instrumentation & Controls	5%

The Program Manager also compiled construction cost curves for similar projects on the basis of flow, process and other like elements. Several sources of cost curve data were utilized including 1988 EPA data, 1989/1990 cost data from Montgomery Watson (formerly James M. Montgomery), Brown and Caldwell and other agency sources. The cost data obtained from Means and adjusted by the allowance was then compared with the historical cost curves.

The next step in the estimating process occurs as a requirement of the design contracts. The successful design firms are required to prepare independent estimates at various stages of design completion, specifically at the 30%, 60%, 90% and 100% submittal levels. The 100% Engineer's Estimates are and will be utilized during the construction contract bid process. Concurrently, the Construction Manager also prepares independent estimates at the 30%, 60% and 90% stages. These estimates are compared with the Engineer's Estimates. Any variations greater than ten percent are discussed between the Construction Manager and the designer. If no consensus is achieved, the Program Manager will select the higher amount and include it in his final budget.

A.3 THE POINT LOMA TUNNEL OUTFALL

Two projects, the San Diego River Outfall and the Point Loma Parallel Outfall, have been replaced with the Point Loma Tunnel Outfall. The cost of the original projects were

The San Diego River Outfall	$102.5 million
Point Loma Parallel Outfall	$ 97.0 million

The replacement project, the Point Loma Tunnel Outfall, was selected only recently and has only been conceptually planned. A corresponding conceptual estimate has indicated only that the tunnel will cost more than $200 million. Until a detailed design is complete, the Clean Water Program is using the combined budgets of the two replaced projects, namely $199.5 million. The Clean Water Program has directed its designer to design to the $199.5 million budget limitation because it has concluded that options exist in the conceptual plan such that, if necessary, elements of the design can be modified or eliminated to meet the budget without adversely impacting performance.

A.4 ACTUAL CONSTRUCTION CONTRACT EXPERIENCE

To date, there have been two construction contracts bid and awarded: The Point Loma Outfall extension and the grading package for the North City Water Reclamation Plant. Both of these contracts were bid substantially under the final estimates. In the case of the grading package, the explanation appears to be based upon the close proximity of the local earthwork contractor to the plant, and the current economic conditions which have resulted in lower prices.

From the estimator's standpoint, such occurrences cannot be predicted nor accounted for in the estimates. Some projects will be bid lower than the engineer's estimate, some, inevitably, will exceed the estimate. Overall, in view of the conditions known and anticipated by the Clean Water Program, the Team believes that the cost estimates are reasonable and conservative.

A.5 ESTIMATE CHECKS

The current plan to have the Construction Manager double-check the designers' cost estimates at three milestones should be reevaluated. This is currently planned at the 30%, 60% and 90% levels. This procedure appears to be excessive, providing only marginal benefits given its related administrative costs. Some alternative procedures that should provide a reasonable comfort level for planning and budgetary purposes are as follows:

1) Construction Manager review and comment on the Engineer's estimates, with the Program Manager acting as reconcilor, if necessary.

2) Designer preparation of the 30% and 90% estimates and Construction Manager preparation of the 60% estimate as a means of validating methodology and results.

3) Construction Manager verification of only one of the three estimates prepared by the designer and review and comment on the other two.

B. Conclusion

The initial utilization of Means to develop conceptual cost estimates is reasonable. It is also reasonable to compare the derived costs against historical cost curve data. The methodology utilized to estimate electrical, HVAC, and instrument and controls is reasonable.

The thirty percent markup for Engineering, Legal and Administrative overhead is incorporated into the cost estimate of the various projects. The October 1991 Budget Summary indicates that this figure is currently in excess of thirty-two percent. A detailed determination of the appropriate value, through start-up, is warranted. It is unlikely, however, that the allowance will materially increase from the current prediction. The final value should be apportioned into components. The costs for general conditions, indirect field operations costs, project overhead, home office overhead and support staff should be identified and included in the administrative portion of the above adjustment. By analyzing the work sheets for different projects it was noted that subcontractors' markups for installation range from approximately fifteen to twenty-nine

percent. These markups for subcontractors appear to be high relative to markups observed in similar projects. The markup for a general contractor is ten percent. Since the general contractor is responsible for completion and the one most likely to encounter problems, general contractor markups are usually higher than subcontractor markups. In total, the various markups discussed above are reasonable.

The conceptual and preliminary estimates generated during the period preceding the Project Report to the present are based upon sound estimating methodology. Since the Project Report, many individual components have been subsequently determined to be both higher and lower in cost than originally estimated. Some projects have been added, some projects have been deleted in their entirety or partially deleted, and some have been substantially altered. At this early stage of a program, this is not unusual. In general, however, the Team concludes that the total costs estimated at this time for the Clean Water Program are reasonable for the scope and magnitude of the program.

VIII. FINANCING PLAN

A. Introduction

The City's Financing Plan for the Sewer Revenue Fund considers the eleven-year period beginning July 1, 1992 and ending June 30, 2003. The Financing Plan includes projections of estimated revenues, debt issues and other sources of funds needed to fund CIP expenditures, O&M expenses, debt service expenses, and administrative expenses of the Wastewater System.

The supporting documentation for the Financing Plan is assembled in a document entitled *City of San Diego, Financing Plan, (Sewer Enterprise Fund)*, August 1993 (hereinafter referred to as the Financing Plan). Table 1-1 entitled "City of San Diego Sewer Revenue Fund, Revenues and Expenditures Statement," Table 1-1C entitled "City of San Diego Sewer Revenue Fund, Operating Revenues and Expenditures," and Table 1-1D entitled "City of San Diego Sewer Revenue Fund, Capital Sources and Uses Statement," are attached as Enclosure VIII.A.

High-Point was retained by the City to independently evaluate the Financing Plan as described below:

> Revenue Program Evaluation. The consultant will evaluate the adequacy of the Financing Plan and revenue program for providing revenues that will meet operation and maintenance expenses ("O&M"), annual debt service requirements, coverage requirements, and pay-as-you-go capital expenditures. These rates and fees will be compared with those of other municipalities.

B. Scope and Approach

The procedures described in this section of the report were performed to evaluate the feasibility of the Financing Plan in conjunction with the City's proposed Series 1993 bond offering. The Financing Plan presents the City's projection of revenues, debt issues and other sources of funds expected to be available during the forecast period to meet projected O&M expenses for existing and proposed Wastewater System facilities, annual debt service requirements, coverage requirements, administrative expenses, payments to reserve funds, and capital expenditures. For purposes of the Series 1993 and future bond issues, net revenues must also be sufficient to meet applicable debt service coverage requirements in the Indenture. The Financing Plan is based on certain assumptions made by the City which are anticipated during the forecast period.

The following procedures were completed to accomplish the Revenue Program Evaluation:

- Compared the CIP budget to the Financing Plan.
- Compared the O&M budget to the Financing Plan.
- Recalculated the computations of debt service included in the Financing Plan.

- Reconciled the encumbrances and continuing appropriations to the 1992 financial statements prepared by Deloitte & Touche.

- Read and assessed the assumptions relating to revenues; specifically, assumptions of growth in customer base, wastewater increases due to population increases, wastewater reductions due to conservation, and interest rate assumptions.

- Recalculated revenue items in excess of $10 million using the above assumptions and reconciled them with supporting documentation.

C. Discussion

Significant Revenue Assumptions

Primary revenue sources are sewer service charges from single-family and nonsingle-family users and capacity charges paid by new development. Both of these sources are dependent upon increasing rates charged and on an increasing user base. Single-family service charge revenue is computed as a fixed charge multiplied by the number of users. In the case of nonsingle-family users, service charge revenue is computed based on a fixed charge for a proportion of metered water usage. The total service charge revenue forecasted in the Financing Plan represents approximately 59% of the sum of total operating revenue and total other income (see summary table below). The contribution of capacity charge revenue is forecasted to increase substantially over the fiscal years presented in the Financing Plan due to a combination of increasing development and increasing charge rates. The total capacity charge revenue forecasted in the Financing Plan represents approximately 17% of the sum of Total Operating Revenue and Total Other Income (see summary table below). The rates and charges which have been or will need to be adopted to support the Financing Plan are discussed below.

Rates and charges. The rates and charges are established annually by the City Council of the City of San Diego which has approved rates and charges through FY 1995. The Financing Plan assumes that the City Council will set rates and charges in the future to meet all required legal obligations.

The single-family monthly service charge rates and the capacity charge rates, and their respective annual percentage increases assumed in the Financing Plan, for the years 1993 through 2003 are shown below:

YEAR	MONTHLY SERVICE CHARGE		CAPACITY FEE	
	Rate	% INCREASE[19]	Rate	% INCREASE
1993	$20.39		$5,201.00	
1994	21.61	6.0	6,033.00	16.0
1995	22.91	6.0	6,998.00	16.0

YEAR	MONTHLY SERVICE CHARGE		CAPACITY FEE	
	Rate	% INCREASE[19]	Rate	% INCREASE
1996	24.28	6.0	6,998.00	0.0
1997	25.74	6.0	6,998.00	0.0
1998	27.28	6.0	6,998.00	0.0
1999	28.92	6.0	6,998.00	0.0
2000	30.66	6.0	6,998.00	0.0
2001	32.50	6.0	6,998.00	0.0
2002	32.50	0.0	6,998.00	0.0
2003	32.50	0.0	6,998.00	0.0

19. The percentage increase over the prior year also is forecast to be applied to the rate for nonsingle-family sewer service charges.

Sewer service charges. Sewer service charge revenues are from two groups of users which are under two distinct rate structures. The two groups are "single-family residential" and "nonsingle-family residential" customers.

Single-family residential customers pay a fixed charge per month. The assumptions regarding the forecast of revenue from single-family residential customers are based on increases in rates charged and increases in population in each year of the forecast period.

Nonsingle-family customers pay a charge based on a proportion of metered water usage (wastewater flows). The assumptions used to forecast nonsingle-family revenues require increases in rates charged and increases in wastewater flows which are expected to be achieved for each year of the forecast period. The Financing Plan discusses and quantifies two assumptions which are expected to influence flow: development of real property and water conservation. Development of real property is forecasted to the year 2003 using population and developed acreage estimates from the published SANDAG Series VII report, modified for current population estimates for 1991 and 1992, interpolating to the year 2000 to conform to the SANDAG forecast for the year 2000, and interpolating increases to the year 2003. The population forecast to the year 2003 in the published SANDAG Series VII report supports the increased development of real property used. Water conservation is estimated to decrease over the forecast period, tending to increase flows. The Financing Plan assumes that users' habit patterns will return to predrought levels except for the effect of mandated hardware impacts, such as flow restrictors. This assumption is based on observations made after the 1975 to 1977 California drought and appears to be a reasonable assumption. This assumption is simulated in the Financing Plan by reducing the effects of conservation (increasing flows) from the observed 15.3% in 1992 to 1% in 2000. Flows associated with decreasing water conservation are expected

to increase from 1992 to 1993, to flatten from 1993 to 1994 and increase ratably from 1994 to 2000 when the effect is fully realized. This simulation is based on the City's estimate of users' habits and not on empirical data. However, the Team has concluded that the basis of the assumption is reasonable and that the impact of this assumption being realized at a rate slower than assumed would be immaterial to total forecasted revenues. The sewer service charge revenues forecasted from increased flows attributable to the reversal of conservation for the years 1995 through 2003 are shown below:

Fiscal Year	1995	1996	1997	1998	1999	2000	2001	2002	2003
Est. Revenue (millions)	$2.1	$5.4	$9.1	$13.3	$14.7	$16.4	$17.6	$18.6	$19.6

The forecasted sewer service charge revenues for selected years are shown below:

	1994	1998	2003
Nonsingle-family	$ 74,702,000	$111,243,000	$141,242,000
Single-family	51,208,000	65,881,000	82,143,000
Total	$125,910,000	$177,124,000	$223,385,000

Capacity charges. Capacity charge revenues represent fees charged upon development of property for capacity in the Wastewater System. The charge is fixed annually and applied on a single-family equivalent basis to new development. The forecasted revenues and increases in single-family equivalents for selected years are shown below:

	1994	1998	2003
Capacity Charge Revenues	$18,757,000	$76,803,000	$40,106,000
Single-Family Equivalents (units)	3,109	10,975	5,731
Capacity Charge Rate (per unit)	$6,033	$6,998	$6,998

The Financing Plan assumes significant increases in development of real property and moderate increases in capacity charge rates over the forecast period. The Financing Plan contains a discussion of factors influencing increases in single-family equivalents which are based on increases in population translated into increases in occupied housing units and moderated by the cyclical nature of real estate development. The population forecast to the year 2003 in the published SANDAG Series VII report supports the single-family equivalents used.

Participating Agencies. The Metro System provides treatment services to 15 Participating Agencies. Each Participating Agency has entered into a sewerage disposal agreement with the City. Under the agreement, a Participating Agency pays an annual capacity service charge and

its proportionate share of total O&M expenses. In addition, Participating Agencies are obligated to pay a portion of the incremental cost of expanding the system to its design capacity of 234 MGD advanced primary treatment. The agreements expire on June 30 or August 31, 2003, with the Participating Agencies having the option to extend the agreements for an additional ten years.

The total payments from Participating Agencies forecasted in the Financing Plan represents approximately 16% of the sum of Total Operating Revenue and Total Other Income (see "sewage treatment plant services" in the summary table below).

Interest Earnings. Funds are invested until needed in either the City's pooled fund or by the Trustee of bond proceeds. The Financing Plan assumes that the rate on invested funds will at all times be less than the presumed bond interest rate. At this time, the cash flow assumes a reinvestment rate of 7% per annum which is below the annual rate earned in the pooled fund for each of the ten years preceding the forecast period. The interest earnings (excluding interest earned on bond funds) included in the Operating Revenues and Expenditures statement represents approximately 7% of the sum of Total Operating Revenue and Total Other Income (see summary table below).

Summary of Operating Revenue and Other Income. The revenue assumptions discussed above are summarized in the following table. The table is summarized from Table 1-1C, Enclosure VIII.B-1 and presented in thousands of dollars.

	FY 1994	FY 1998	FY 2003	Total FY 1993 to FY 2003	% of Total
Operating Revenues					
Service charge revenues	$125,910	$177,125	$223,385	$1,921,105	59%
Sewage treatment plant services (A)	23,351	30,407	35,654	332,999	10%
Other	2,514	2,524	2,534	36,056	1%
Total Operating Revenues	151,775	210,056	261,573	2,290,160	70%
Other Income					
Sewage treatment plant services (B)	11,633	30,670	13,419	193,925	6%
Interest earnings	12,710	23,663	25,747	241,147	7%
Capacity charge municipal system	18,757	76,803	40,106	537,753	16%
Total Other Income	43,100	131,136	79,272	972,825	30%
Total Operating Revenues and Other Income	$194,875	$341,192	$340,845	$3,262,985	100%

(A) excludes reimbursement of capital costs
(B) reimbursement of capital costs

Expenditures

The O&M and CIP budgets considered in the Financing Plan are discussed above in Section III,

Engineering; Section VI, O&M; and Section VII, Cost Estimation.

Debt Service and Coverage

Primary assumptions in the Financing Plan concerning future series of bonds to be issued to fund capital improvements include an annual interest rate of 7.5 percent; a term of thirty years; a debt service reserve fund equal to one year's debt service; and a debt service coverage test for Wastewater System net revenues equal to a minimum 120% of debt service. These assumptions were adopted by the City on the advice of its Financial Advisors and the Team has concluded that these assumptions are reasonable.

The Team has concluded that forecast net revenues available for debt service are adequate to pay debt service and meet debt service coverage requirements for each year of the forecast period based upon a review of the reasonableness of various underlying assumptions contained in the Financing Plan. The adequacy of net revenue available for debt service and debt service coverage for the City of San Diego Sewer Revenue Fund for each year of the forecast period as included in the Financing Plan is shown on Table 1-1C, included as Enclosure VIII.B-1.

Comparable Programs

The fees and charges of the Financing Plan were compared with fees and charges of other municipal wastewater programs. In general, there are no directly comparable programs and, therefore, no conclusion can be made regarding the fees and charges of this program versus fees and charges of other programs. This is because each program is unique, is designed and engineered to local circumstances and topography, is funded from differing sources, is at different stages of development of the treatment system and the community being served, and may have been partially subsidized by federal grant funding which is no longer available. However, the review of fees and charges of other programs does indicate that sewer service charges and connection fees are increasing and that the fees and charges assumed in the Financing Plan are within, but at the upper end, of the range of fees and charges set by other programs.

Table VIII-1 below presents a comparison of the City's current connection fees and average monthly residential sewer bill with that of other communities in California for FY 1992.

TABLE VIII-1
COMPARISON OF CONNECTION FEES AND AVERAGE MONTHLY SEWER SERVICE CHARGES

City/County [1]	Sewer Service Charge	Connection Fee [2]
San Diego	$ 19.24	$4,484
Los Angeles	14.24	3,416
Bakersfield	8.75	900
Escondido	27.20	5,760
Fresno	5.46	1,200
Glendale	5.84	1,565
Los Angeles County Sanitation Districts		
CSD #2	5.83[3]	1,310
CSD #5	5.84[3]	1,330
Oceanside	18.31	1,565
Riverside	11.76	2,684
Sacramento	15.20[3]	914
San Bernardino	13.60	3,080
San Francisco	14.49	0
San Jose	17.00	780
San Mateo	0.00	1,260
Santa Monica	30.81	1,982
Santa Rosa	15.47	3,000
Vallejo	13.53	1,330
Average (w/o San Mateo/San Francisco)	$14.27	$2,151

Source: State Water Resources Control Board
(1) Cities and counties serving areas with population in excess of 100,000
(2) Fee for a single-family dwelling.
(3) Fees supplemented by Ad Valorem taxes.

Additional information was obtained from the County Sanitation Districts of Orange County and the City of Los Angeles Wastewater System, both coastal communities. The 1992/1993 budget for the nine districts comprising the County Sanitation Districts of Orange County included user fees averaging $5.00 per month, with a range of $3.33 to $8.33, and annual increases of 18%. The user fees are supplemented by an allocation of property taxes. Connection fees are $2,350 per single-family unit, increasing at 5% per year. The nine districts are undertaking a ten-year $800 million capital improvement program funded by a combination of debt and pay-as-you-go.

The City of Los Angeles Wastewater System has undertaken a $3.8 billion capital improvement program funded by a combination of debt and pay-as-you-go for the FY's 1992 through 2001. Implementation of the Los Angeles capital improvement program required a rate increase of approximately 33% in FY 1992 and will require increases of approximately 7% on average from FY 1993 through FY 2001. The estimated average monthly residential Sewer Service Charge is estimated to increase from $14.24 in FY 1992 to approximately $23.64 in FY 1996.

A comparison of the fees and charges of the Financing Plan with those of the two districts discussed above follows for FY 1993:

	Monthly Sewer Service Charge	Estimated Annual Increase	Connection Fee
San Diego	$ 20.39	6%	$5,201
Orange County	3.33 -8.33	17%	2,340
Los Angeles	15.24	7%	2,748

The descriptions of the programs and the table illustrate that fees and charges are not comparable. The projected rate increases for single-family service charges of the three programs indicate that the trend is for significant increases in sewer service charges. Such increases are needed to fund capital improvement programs and related O&M expenses of the districts.

D. Conclusion

The Financing Plan presents the City's projection of revenues, O&M expenses, annual debt service requirements, coverage requirements, and capital expenditures through FY 2003. Projections in the Financing Plan are based on the City's assumptions regarding inflationary increases, long-term debt interest rates, estimates of additional O&M expenses related to new or upgraded facilities, and estimates of construction costs of the Consumers' Alternative facilities and are therefore subject to change.

The Team has concluded that the City's revenue assumptions and resulting forecasted revenues in the Financing Plan are reasonable. The Team has also concluded that the forecasted revenues, debt issues and other sources of funds are adequate to fund projected O&M expenses of the Wastewater System, annual debt service requirements, coverage requirements, administrative expenses, payments to reserve funds and capital expenditures. The Team has reviewed the Financing Plan and these various assumptions and, based on current expected conditions during the forecast period, has concluded that the Financing Plan is feasible.

LE 1-1

CITY OF SAN DIEGO SEWER REVENUE FUND
REVENUES AND EXPENDITURES STATEMENT
(Escalated Dollars in Thousands)

DESCRIPTION	ACTUAL 1992	PROJECTED 1993	1994	1995	1996	1997	PROJECTED 1998	1999	2000	2001	2002	PROJECTED 2003
REVENUES												
Balance from Prior Year	17,003	0	24,314	86,211	6,881	19,037	71,694	54,670	51,212	61,402	79,361	74,602
Prior Year Encumbrances Cancelled and Continuing Appropriations	224,485	192,761	151,837	156,399	255,237	212,854	145,472	114,352	133,500	151,148	128,312	140,462
Bond Proceeds	0	0	237,482	103,917	249,701	301,686	52,353	0	0	0	0	0
Service Charge Revenues	104,765	114,993	125,910	136,589	148,987	162,487	177,125	189,716	203,211	217,824	220,878	223,385
New Sewer Connections	119	29	132	133	134	135	136	137	138	139	140	141
Sewage Treatment Plant Services	25,304	37,359	34,984	34,979	42,274	56,901	61,077	52,853	52,619	56,194	48,580	49,074
Sludge Handling Charge	104	72	60	62	62	64	67	68	68	69	69	70
Interest Earnings	18,012	11,029	16,084	23,746	27,957	29,885	24,579	22,775	24,371	25,269	25,464	25,747
Services Rendered to Others	1,365	1,619	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,312
Trunk Line Sewer Area Charges	26	(586)	0	0	0	0	0	0	0	0	0	0
Capacity Charge Municipal System	12,385	10,920	18,757	35,998	50,414	65,060	76,803	78,609	80,435	40,273	40,378	40,106
Sale of Electricity/Gas Engine Generation	351	262	350	350	350	350	350	350	350	350	350	350
Contributions in Aid	7,879	354	1,004	0	0	0	0	0	0	0	0	0
Other Revenue	417	8,832	660	660	660	660	660	660	660	660	660	660
TOTAL REVENUE	412,214	377,645	612,886	580,355	783,969	850,432	611,628	515,501	547,906	554,640	545,505	555,908
EXPENDITURES												
Capital Improvement Program	106,004	131,564	251,883	192,607	381,539	425,763	211,132	90,672	88,112	87,798	61,673	63,718
Capital Improvement Encumbrances	164,768	109,279	116,985	208,630	172,357	98,815	61,310	87,086	92,209	60,189	60,777	63,541
Debt Service	2,976	2,790	14,144	23,731	40,313	66,169	82,771	85,226	85,226	85,226	85,226	85,226
Operating & Maintenance Expenses	99,062	89,853	103,451	118,526	128,748	139,757	147,532	153,896	160,939	172,320	182,118	192,644
Continuing Appropriations	25,159	42,558	39,413	46,608	40,497	46,657	53,012	46,414	58,939	68,123	79,685	87,583
Accrued Annual Leave & Sick Leave	172	224	200	200	200	200	200	200	200	200	200	200
Bond Redemption/Defeasance Escrow	0	0	12,791	0	0	0	0	0	0	0	0	0
Transfer/Payments to Other Funds	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EXPENDITURES	398,141	376,267	538,867	590,302	763,655	777,362	555,986	463,494	485,624	473,856	469,679	492,911
BALANCE												
Grants Reimbursable	14,073	(22,937)	(25,124)	(18,713)	0	0	0	0	0	0	0	0
Grants Receivable	0	0	0	0	0	0	0	0	0	0	0	0
Rate Stabilization Fund Transfer	0	0	0	0	0	0	0	0	0	0	0	0
Contributions to Operating Reserve	0	0	12,931	1,884	1,278	1,376	972	795	880	1,423	1,225	1,316
Funds Available for Appropriation	0	24,314	86,211	6,881	19,037	71,694	54,670	51,212	61,402	79,361	74,602	61,681
TOTAL EXPENSE AND BALANCE	412,214	377,645	612,886	580,355	783,969	850,432	611,628	515,501	547,906	554,640	545,505	555,908
BALANCE AVAILABLE FOR APPROPRIATION												
Beginning of Year	17,003	0	24,314	86,211	6,881	19,037	71,691	54,670	51,212	61,402	79,361	74,602
Increase/(Decrease)	(17,003)	24,314	61,897	(79,330)	12,155	52,657	(17,024)	(3,457)	10,189	17,960	(4,759)	(12,921)
End of Year	0	24,314	86,211	6,881	19,037	71,694	54,670	51,212	61,402	79,361	74,602	61,681
End of Year Cash Balance	208,698	193,057	277,642	301,394	291,906	278,762	231,790	248,476	277,393	274,140	282,955	282,212
Current Year Minimum Operating Reserve		0	22,931	24,816	26,093	27,470	28,411	29,237	30,117	31,510	32,765	34,080
Capacity Charge (% of Fund Sources)		5.91%	4.07%	8.49%	9.53%	10.20%	16.48%	19.60%	19.41%	9.98%	9.68%	9.65%
Debt Coverage Ratio (Sewer Revenue Fund)		33.93	6.46	4.78	3.45	2.60	2.31	2.26	2.37	1.99	1.83	1.74
Debt Coverage Ratio (Metro/CWP System)		38.71	2.62	6.10	1.83	1.25	1.59	1.64	1.52	1.26	1.26	1.26
Debt Coverage Ratio (Municipal System)		28.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt, % of Cap Plant (Metro/CWP System)		4.81%	56.29%	61.12%	69.67%	74.71%	71.61%	70.66%	69.59%	67.29%	66.48%	65.67%
Total City Debt Issuance		0	259,585	374,687	651,263	985,420	1,013,408	1,013,408	1,013,408	1,013,408	1,013,408	1,013,408

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TABLE 1-1C
CITY OF SAN DIEGO SEWER REVENUE FUND
OPERATING REVENUES AND EXPENSES
(Escalated Dollars in Thousands)

DESCRIPTION	ACTUAL|PROJECTED 1992	1993	1994	1995	1996	PROJECTED 1997	1998	1999	2000	2001	2002	PROJECTED 2003
OPERATING REVENUES												
Service Charge Revenues	104,765	114,993	125,910	136,589	148,987	162,487	177,125	189,716	203,211	217,824	220,878	223,385
New Sewer Connections	119	29	132	133	134	135	136	137	138	139	140	141
Sewage Treatment Plant Services (a)	25,304	29,509	23,351	26,170	28,835	30,453	30,407	31,053	30,893	32,606	34,068	35,654
Sludge Handling Charge	104	72	60	62	62	64	67	68	68	69	69	70
Services Rendered to Others	1,365	1,619	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,312
Sale of Electricity/ Gas Engine Generation	351	262	350	350	350	350	350	350	350	350	350	350
Other Revenue	417	8,832	660	660	660	660	660	660	660	660	660	660
TOTAL OPERATING REVENUE	132,424	155,316	151,775	165,276	180,339	195,462	210,056	223,296	236,631	252,959	257,477	261,573
OPERATING EXPENSES												
Operation and Maintenance Expenses	99,062	89,853	103,451	118,526	128,748	139,757	147,532	153,896	160,939	172,320	182,118	192,644
TOTAL OPERATING EXPENSES	99,062	89,853	103,451	118,526	128,748	139,757	147,532	153,896	160,939	172,320	182,118	192,644
OPERATING INCOME	33,362	65,463	48,324	46,750	51,591	55,705	62,525	69,400	75,692	80,639	75,359	68,929
OTHER INCOME (CHARGES)												
Sewage Treatment Plant Services (b)	0	7,850	11,633	8,809	13,439	26,448	30,670	21,800	21,757	23,588	14,512	13,419
Trunk Line Sewer Area Charges	26	(586)	0	0	0	0	0	0	0	0	0	0
Interest Earnings (c)	18,012	11,029	12,710	21,927	23,587	24,605	23,663	22,775	24,371	25,269	25,464	25,747
Capacity Charge Municipal System	12,385	10,920	18,757	35,998	50,414	65,060	76,803	78,609	80,435	40,273	40,378	40,106
Rate Stabilization Fund Transfer	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL OTHER INCOME	30,423	29,214	43,100	66,734	87,440	116,113	131,136	123,184	126,563	89,131	80,355	79,271
NET REVENUE AVAILABLE FOR DEBT SERVICE	63,786	94,677	91,424	113,484	139,032	171,818	193,661	192,584	202,255	169,771	155,714	148,200
DEBT SERVICE COVERAGE	21.43	33.93	6.46	4.78	3.45	2.60	2.34	2.26	2.37	1.99	1.83	1.74
ADDITIONAL CHARGES												
Contribution to Operating Reserve	0	0	12,931	1,884	1,278	1,376	972	795	880	1,423	1,225	1,316
Emergency Reserve	0	0	0	0	0	0	0	0	0	0	0	0
Debt Service	2,976	2,790	14,144	23,731	40,313	66,169	82,771	85,226	85,226	85,226	85,226	85,226
Addition to Continuing Appropriations	0	0	4,562	98,839	0	0	0	19,148	17,618	0	12,150	10,662
Grants Reimbursable	14,073	(22,937)	(25,124)	(18,713)	0	0	0	0	0	0	0	0
Increase/(Decrease) in Funds Available for Appropriation	(17,003)	24,314	61,897	(79,330)	12,155	52,657	(17,024)	(3,457)	10,189	17,960	(4,759)	(12,921)
Addition to Accrued Annual Leave and Sick Leave	172	224	200	200	200	200	200	200	200	200	200	200
Transfer/Payments to Other Funds	0	0	0	0	0	0	0	0	0	0	0	0
	218	4,392	68,610	26,612	53,916	120,402	66,919	101,912	114,143	104,808	94,011	84,482
NET REVENUE AVAILABLE FOR SYSTEM ASSETS	63,568	90,285	22,814	86,872	85,085	51,416	126,712	90,672	88,112	64,962	61,673	63,718

NOTES:
(a) – Excludes Participating Agency and Naval reimbursement of capital costs
(b) – Participating Agency and Naval reimbursement of capital costs
(c) – Excludes interest earned on construction fund

CITY OF SAN DIE[illegible]WER REVENUE FUND
CAPITAL SOURCE[illegible]ND USES STATEMENT
(Escalated Dollars in Thousands)

DESCRIPTION	ACTUAL 1992	PROJECTED 1993	1994	1995	1996	1997	PROJECTED 1998	1999	2000	2001	2002	PROJECTED 2003
SOURCE OF FUNDS FOR CAPITAL EXPENDITURES												
Funds from Prior Year Appropriation	34,558	40,924	0	0	42,383	67,382	31,120	0	0	22,835	0	0
Bond Issue	0	0	259,585	115,101	276,577	334,156	57,988	0	0	0	0	0
Interest Earnings (a)	0	0	3,374	1,819	4,370	5,280	916	0	0	0	0	0
Contributions in Aid	7,879	354	1,004	0	0	0	0	0	0	0	0	0
Grant Receipts	0	23,681	30,120	20,871	19,262	5	0	0	0	0	0	0
Net Revenue Available for System Assets (see Table 1-1C)	63,568	90,285	22,814	86,872	85,085	51,416	126,742	90,672	88,112	64,962	61,673	63,718
TOTAL SOURCES	106,004	155,245	316,897	224,663	427,677	458,239	216,767	90,672	88,112	87,798	61,673	63,718
USE OF FUNDS												
Capital Improvement Program Expenditures	106,004	131,564	251,883	192,607	381,539	425,763	211,132	90,672	88,112	87,798	61,673	63,718
Reimbursement of Preliminary Expenditures and Unfunded Capital Appropriations	0	0	0	0	0	0	0	0	0	0	0	0
Debt Service Reserve Fund	0	0	18,859	9,746	23,418	28,293	4,910	0	0	0	0	0
Issue Costs	0	0	3,245	1,439	3,457	4,177	725	0	0	0	0	0
Adjustment for Earned Grant Receipts	0	23,681	30,120	20,871	19,262	5	0	0	0	0	0	0
Bond Redemption/Defeasance Escrow	0	0	12,791	0	0	0	0	0	0	0	0	0
TOTAL USES	106,004	155,245	316,897	224,663	427,677	458,239	216,767	90,672	88,112	87,798	61,673	63,718

NOTES:
(a) - Interest on construction and reserve funds.

APPENDIX A
DOCUMENTS REVIEWED

1. *Project Report for Modifications to the Metropolitan Sewerage System*, Program Manager, May 1990, Executive Summary and Volumes 1 through 9.

2. "Partial Consent Decree," not entered, dated January 1990, including;
   Attachment B, Operations and Maintenance Budget Data,
   Attachment C, Capital Improvements Projects - Detail Summary,
   Attachment F, Specific CIP support facilities schedule and data sheet.

3. Transcript of Proceedings, Court Order dated April 3, 1991.

4. "San Diego Area Wastewater Management District 1995 Organization Chart."

5. "Construction Management Division Organization Chart." (est. March 1993).

6. Senate Bill No. 1225 dated March 8, 1991, as amended, "San Diego Area Wastewater Management District Act."

7. "Report to the Honorable Mayor and City Council," City Attorney, dated June 5, 1991.

8. Memo, Federal Court Ruling..., Deputy City Manager Frauenfelder, dated June 6, 1991.

9. "Chapter 4, Cost Estimating Guidelines," *Program Guidelines for Design Consultant*, Draft version dated November 21, 1991.

10. *Otay Valley Reclamation Plant Predesign Report*, Volumes I & II.

11. Letter Report by the Clean Water Program Special Committee dated November 19, 1991.

12. Minutes of the Governance Advisory Group Meetings of November 1, 1991, and December 6, 1991.

13. Clean Water Program Baseline Project Budget, October 21, 1991 version.

14. *Secondary Financial Plan and Revenue Program for Modifications to the Metro System*, Program Manager, May 1990.

15. Exhibit A, "Scope of Work," to the Program Manager's Contract with the City of San Diego.

16. Discharge Permit NPDES No. CA 0107409 via California Regional Water Quality Control Board letter dated January 16, 1991.

17. "Functional Organization Chart for the [Water Reclamation] Division, "dated January 2, 1992.

18. "Program Manager Support Staff Organization Chart."

19. Clean Water Program Organization Charts - For FY 1993 (7 pages), dated February 10, 1993.

20. "Appropriations Summary," November 18, 1991, version.

21. "Rate Case," December 6, 1991, version.

22. Baseline Plan for Residuals Management Presentation by Harold Bailey at the December 6, 1991, meeting of the Governance Advisory Group.

23. "City of San Diego Sewer Revenue Fund Revenue and Expenditures Statement," Draft, Table 1-1 and following 33 pages, dated 25 Nov 1991.

24. Draft financial statements of the Sewerage Utility at June 30, 1991 & 1990.

25. Sewage Utility Balance Sheets, June 30, 1991 & 1990.

26. "Water Utilities Department, Sewer Revenue Fund Finance Model," undated, seven pages and Attachments A "Cases" and B "Assumptions."

27. "Wastewater Rate Study and Financial Plan and Revenue Program Accelerated Projects at Point Loma," dated March 30, 1990.

28. Miscellaneous notes and assumptions regarding the rate case and revenue program.

29. California Regional Water Quality Control Board, San Diego Region, NPDES Permit No. CA0107409 for E.W. Blom Point Loma Metropolitan Wastewater Treatment Plant, January 16, 1991.

30. California Regional Water Quality Control Board, San Diego Region, Monitoring and Reporting Program No. 85-16 for City of San Diego Point Loma Ocean Outfall, San Diego County.

31. California Regional Water Quality Control Board, San Diego Region, Adoption of Order No. 88-34 "Waste Discharge Requirements for the City of San Diego Fiesta Island Sludge Drying Facility, San Diego County," April 28, 1991.

32. City of San Diego, *The Saga of San Diego Bay.*

33. Metropolitan Sewage System, San Diego, California, "Industrial Waste Program Guidance for Industrial Users."

34. "Metro Wastewater Division Organizational Chart," City of San Diego, dated July 1, 1991.

35. City of San Diego, Water Utilities, Sewer Fund Budgets, Fiscal Year 1991/92.

36. City of San Diego, Water Utilities, Maps of Metro Service Area and Metro Sewer System.

37. City of San Diego, Typical Industrial Discharge Permit.

38. City of San Diego Pretreatment Regulations, San Diego Municipal Code, Section 64.0200 - 64.0810.

39. City of San Diego, Water Utilities Department, "Sewerage Utility - Balance Sheets, June 30, 1991 and 1990."

40. Clean Water Program Special Committee Report to the Mayor and City Council of San Diego - November 19, 1991.

41. City of San Diego, Water Utilities Department, Engineering Division, Consent Decree Project Schedule (Bar Chart 1990 - 1997).

42. City of San Diego, Clean Water Program, "Secondary Financial Plan and Revenue Program for Modifications to the Metropolitan Sewerage System, May, 1990" (excerpts).

43. Clean Water Program for Greater San Diego Program Manager (PM) Support Staff Operational Organization (July 15, 1991).

44. Clean Water Program, Baseline Project Budget Summary and Project Budget Worksheets (October 21, 1991).

45. Clean Water Program, "Project Report, Volume 1 - Basis of Project Development (May 1990)" Chapter 8 - Basis of Cost Estimates (excerpts).

46. Clean Water Program Governance Advisory Group Agenda for Meeting on Friday, December 6, 1991 at 1;30 pm.

47. City of San Diego, Clean Water Program, "Baseline Plan for Residuals Management," Introduction, Figure 1-3 and pages 1-7 and 1-8.

48. Clean Water Program for Greater San Diego - Water Reuse Technical Questionnaire.

49. City of San Diego, Clean Water Program Organizational Chart Fiscal Year 1992 (Rev. 10-11-91).

50. Summary of Metro/CWP Estimated Staffing (Date July 12, 1991) received from Alice Benson (CWP) December 19, 1991.

51. Summary of O&M Facility Staffing by Subsystem, January 10, 1992 (received from Alice Benson March 27, 1992).

52. City of San Diego, Financial Analysis Program, Sewer Fund Rate Case Attachments, Revised November 25, 1991 (received from Steve Hogan December 19, 1991).

53. City of San Diego, Clean Water Program, Rate Case Nonpersonnel Expenditure O & M Revisions, June 28, 1991 (worksheets by Dan Tobocman).

54. City of San Diego, Clean Water Program, Selected Annual Operation and Maintenance Cost Tables, February 9, 1990 - April 4, 1990 (worksheets provided by Alice Benson).

55. City of San Diego, Financial Analysis Program, Sewer Fund Rate Case Attachments, Revised February 25, 1992 (received from Steve Hogan March 27, 1992).

56. Summary of Metro/Tech Serv/CWP/Muni O&M Expenses, December 19, 1991 (received from Alice Benson March 27, 1992).

57. City of San Diego, Clean Water Program, Summary of Staffing Costs, June 1991 and November, 1991 Rate Cases (worksheets provided by Alice Benson).

58. City of San Diego, Financial Analysis Program, Sewer Fund, July, 1991 Rate Case Attachments, Table 4-4A.

59. City of San Diego, Clean Water Program, "Survey of O & M Organizational Structure and Staffing, August, 1991."

60. City of San Diego, Water Utilities Department, Wastewater Collection Division, Operational and Maintenance Program Data for United States versus City of San Diego Case, July 7, 1989.

61. City of San Diego, Financial Analysis Program, "Comparison of November 25, 1991, Rate Case to March 30, 1990 FPRP, Municipal Sewer System Operation and Maintenance Expenses."

62. San Diego Water Utilities Department, Services Division, Sewer Utility Statement of Sewer Flows (as of September 30, 1991).

63. City of San Diego and La Mesa, "Sewer Disposal Agreement of 1960," Document No. 625491.

64. American Water Works Association, *Manual of Water Supply Practices M1 - Water Rates*, 1991.

65. Metro Denver Wastewater Reclamation District, 1992 Annual Budget, Vol. 1.

66. Raftelis, George A., *The Arthur Young Guide to Water and Wastewater Finance and Pricing*, Chelsa, MI, Lewis Publishers, 1989.

67. United States Environmental Protection Agency, *Estimating Staffing for Municipal Wastewater Treatment Facilities*, Contract No. 68-01-0328, March, 1973.

68. City of Phoenix, Arizona, "Water and Wastewater Operations Survey," received from Sharon Cayman at the City of Phoenix, Water and Wastewater Department on December 20, 1991.

69. "User Charge Summary, Statewide," California State Water Resources Control Board, Division of Clean Water Programs.

70. "Project Coordination Chart," CWP, March 5, 1993

71. Memo, S. Hamilton and D. Vitkus, Subj: Project Manager - Construction Manager Roles & Responsibilities During Construction, June 9, 1992

72. "Construction Phase Communications and Function Chart," CWP, June 1, 1992

73. Executive Summary Report - Reclaimed Water Distribution System, Master Plans for Northern, Central and Southern Service Areas, City of San Diego, dated November 1992, Clean Water Program.

74. Memorandum, "Project Manager - Construction Manager Roles & Responsibilities during construction, by Susan Hamilton & Dave Vitleus dated June 9, 1992.

75. Responsibility Matrix and Program Manager Support Staff operational organization, by F.D. Schlesinger Program Director, dated July 31, 1991.

76. Construction Cost Estimate (90% Design) for North City Water Reclamation Plant, Clean Water Program by Sverdrup/Kaiser Engineers, dated January 15, 1993.

77. Construction Cost Estimate - 90% Design Submittal for North City Water Reclamation Plant, Clean Water Program, by CH_2M Hill & Associates, dated December 1992.

78. Final Design Plans & Specifications - Carmel Valley Trunk Sewer Replacement & Sorrento Valley Water Main Replacement.

79. Final Design Plans & Specifications - Pump Station No. 65 and Force Main.

80. Volume I, Chapters 1 thru 17, Program Guidelines for Design Consultant, Latest Revision February, 1992.

81. Volume IV, Appendix 'A', Standard Details & Drawings - Program Guidelines for Design Consultants, Latest Revision February 1992.

82. Volume V, Appendix B, Preparation Guide and Master Construction Specifications Divisions 0 through 10. Program Guidelines for Design Consultant, Latest Revision February 1992.

83. Volume VIII, Appendix D, Design Guidelines, Program Guidelines for Design Consultant, Latest Revision February 1992.

84. Value Engineering Report - North City Pipeline Projects by Kramer, Chin & Mayo dated September 1991.

85. Memorandum to City Council for City Manager. Subject: Revised Clean Water Program Alternative (Consumer's Alternative). Reclaimed Water Analysis - dated May 21, 1992.

APPENDIX B
PROGRAM MANAGER'S TASKS

The function of the Program Manager is a joint effort of five firms, principal of which is Montgomery Watson. The following is an outline of the services programmed in Amendments No. 7 and No. 11 of the Program Manager contract. These services, identified as Phase IIA & IIB services, extend beyond the scope of work and/or time specified for Phase I - Planning Work, up to the commencement of Phase IIB - Detail Design Management.

Amendment No. 7

Following each task of Amendment No. 7 is an indication as to whether a deliverable is expected, its original due date, its classification and its status March 11, 1993. The abbreviations used are as follows:

NA - Not Applicable
PR - Personnel Resource
DL - Deliverable Listed
DUL - Deliverable Unlisted
A - Action

TASK NO.	DESCRIPTION	ORIGINAL DUE DATE	CLASSIFICATION	STATUS
7.1.1.1	Principal-in-charge	NA	PR	Don Smith
7.1.1.2	Program Manager	NA	PR	John Moutes
7.1.1.3	Technical Advisory Committee	NA	PR	As Required
7.1.2.1	Project Mobilization	NA	A	Complete
7.1.2.2	PMP Update	4/30/91	DL	Deleted 5/16/91
7.1.2.1	Dep. P.M.-Mgt. Support	NA	PR	Bill Butler

TASK NO.	DESCRIPTION	ORIGINAL DUE DATE	CLASSIFICATION	STATUS
7.1.2.2	Public Participation-Staff	NA	PR	Sara Katz
7.1.2.2.1	Public Part.-Work Plan	NS	DUL	Action Complete
7.1.2.2.2	Organization Meetings	NS	PR	Ongoing
7.1.2.2.3	Imp. PCOP	NS	PR/A	Ongoing
7.1.2.2.4	Assist PIP - Design	NS	PR/A	Ongoing
7.1.2.2.5	Assist PIP - Contractor	NS	PR/A	Ongoing
7.1.2.3.1	PF&F Support	NS	PR/A	Ongoing
7.1.2.3.2	Proj. Acct.	NS	PR/A	Ongoing
7.1.2.4	ACN/DAD Formation	NS	PR/A	Ongoing
7.1.2.5.1	PM Contract Management	NS	PR/A	Ongoing
7.1.2.5.2	Contract Monitoring	NS	PR/A	Ongoing
7.1.2.6.1	Human Resources	NS	PR/A	Ongoing
7.1.2.6.2	Project Office Admin	NS	PR/A	Ongoing
7.1.2.7.1	MBE/WBE Dev & Comp	NS	PR/A	Complete
7.1.2.7.2	Predesign Package Rev.	NS	PR/A	Complete
7.1.2.7.3	Const./Prepurchase Rev.	NS	PR/A	Complete
7.1.3.A	Permits/R.O.W.	NS	PR/A	Ongoing
7.1.3.B	Surveying, etc.	NS	PR/A	Ongoing
7.1.3.C	Geotechnical	NS	PR/A	Ongoing
7.1.3.D	Sch/Reporting/Controls	NS	PR/A	Ongoing
7.1.3.E	Estimates	NS	PR/A	Ongoing
7.1.3.F	Other Technical Support	NS	PR/A	Ongoing
7.1.3.1	Dep PM-Tech Support	NS	PR/A	Paul Findley
7.1.3.2	Permits/R.O.W.	NS	PR/A	Ongoing

TASK NO.	DESCRIPTION	ORIGINAL DUE DATE	CLASSIFICATION	STATUS
7.1.3.3	Geotechnical	NS	PR/A	Ongoing
7.1.3.4	Surveying, etc.	NS	PR/A	Ongoing
7.1.3.5	Sch/Reporting/Controls	NS	PR/A	Ongoing
7.1.3.6	QA/QC	NS	PR/A	Ongoing
7.1.3.7	Document Control	NS	PR/A	Ongoing
7.1.3.8	Production Admin	NS	PR/A	Ongoing
7.2.1	Dep PM-Standards & Procedures	NA	PR	Paul Findley
7.2.2	Std. Dwgs. & Details	1/24/92	DL	Actual 1/23/92
7.2.3	Tech. Specs.	2/7/92	DL	Actual 2/07/92
7.2.4	Procurement Master Spec.	1/3/92	DL	Actual 2/24/92
7.2.5	Supplier Prequal G.	1/3/92	DL	Actual 2/24/91
7.2.6	Update CWP S&G	2/14/92	DL	Actual 2/14/92
7.2.7	Update City Furnished G	1/10/92	DL	Actual 1/23/92
7.2.8	Complete Remaining G	1/24/92	DL	Actual 1/23/92
7.2.9	Doc. Control G	Not in #7	DL	Actual 2/14/92
7.3.1	Dep PM-Planning/Envir.	NA	PR	Position discontinued
7.3.2	Advance Planning	NA	PR/A	Ongoing

TASK NO.	DESCRIPTION	ORIGINAL DUE DATE	CLASSIFICATION	STATUS
7.3.3	Environ. Coordination	NA	PR/A	Ongoing
7.3.4.1	Sludge Disposal MP	11/27/91	DL	Actual 11/27/91
7.3.4.2	Hypochlorite Feasibility	10/18/91	DL	Actual 10/18/91
7.3.4.3	Odor, Corrosion, VOC	8/31/92	DL	Actual 12/30/92
7.3.4.4	Perforated Baffle Plate	3/3/92	DL	Actual 1/14/92
7.4.0.1	Dep PM-Predesign	NA	PR	Position discontinued
7.4.0.2	CADD Supervision	NA	PR/A	Ongoing
7.4.1.0	Leader MS-2 & MS-3	NA	PR/A	Position discontinued
7.4.1.1	MS-2	2/21/92	DL	Cancelled
7.4.1.2	MS-3	9/13/91	DL	Partial (1-4) 10/29/91
7.4.2.1	STP-2/STP-3/SSF-1 of SBTP	12/6/91	DL	Predesign Complete
7.4.2.2	NTP-6 Mission Gorge WRP	4/7/92	DUL	Predesign Complete
7.4.3.0	Leader SS1, SS-3, NRP-1B, SSP-1, SSP-2 & NSP-7	NA	PR/A	Position discontinued
7.4.3.1 & 2	Sewers Predesign (combine SS-1 & SS-2)	2/21/92	DL	Actual 2/21/92
7.4.3.3	NRP-1B SD River Outfall Predesign	12/13/91	DL	Actual 11/8/91

TASK NO.	DESCRIPTION	ORIGINAL DUE DATE	CLASSIFICATION	STATUS
7.4.3.4	SSP-1 Pt Loma to SB Sludge Pipeline	12/20/91	DL	Cancelled
7.4.3.5	SSP-2/SRP-1 Otay Sludge & Eff Pipeline Predesign	4/30/92	DL	Actual 12/20/91
7.4.3.6	NSP-7 Centrate Ext. Predesign	5/7/92	DL	Cancelled by San Diego 6/18/92
7.4.4	Support Value Engineer'g	NA	PR/A	Ongoing
7.5.1	Water Reclaim. Support	NA	PR/A	Ongoing
7.5.2.1	Dist. Criteria & Unit Cost	9/30/91	DL	Act. 9/30/91
7.5.2.1	Network Control & Data	6/30/92	DL	Cancelled 4/9/92
7.5.2.1	RWD Network Report	8/7/92	DL	On hold by San Diego 7/92
7.5.2.2	Dist. System Model	7/7/92	DL	Actual 2/15/92
7.5.2.3	Surface Storage Siting	5/14/92	DL	Actual 12/92
7.5.4	Technical Marketing Support	NA	PR/A	Ongoing
7.5.5.1	Marketing Financial	NA	PR/A	Ongoing
7.5.5.2	Rate Development	NA	PR/A	Ongoing
7.6.1	Procurement of Design Services	NA	PR/A	Bill Weidenbacher
7.6.2	Procurement of Equipment and Materials	NA	PR/A	Bill Weidenbacher

TASK NO.	DESCRIPTION	ORIGINAL DUE DATE	CLASSIFICATION	STATUS
7.7.1	Dep. P.M.- Tech. Assist	NA	PR	Paul Findley
7.7.2.1	Rev. Designers Admin.	NA	PR/A	Ongoing
7.7.2.2	Spot check Designers' Products	NA	PR/A	Ongoing
7.7.2.3	Resolve Designers' RFCs	NA	PR/A	Ongoing
7.7.3	Tech Support of VE Contracts	NA	PR/A	Ongoing
7.8.1.1	O&M Schedules	5/31/91	DL	Actual 6/3/91
7.8.1.2	Starting Plan	8/30/91	DL	Actual 8/30/91
7.8.1.3	Maintenance Mngt.	11/15/91	DL	Cancelled
7.8.1.3	Process Control/Opers.	1/31/92	DL	Cancelled
7.8.1.3	Mat'l Handling & Control	11/22/91	DL	Cancelled
7.8.2.1	Documentation Requirements	8/28/92	DL	Cancelled
7.8.3.1	Process Startup Procedure	8/21/92	DL	Cancelled
7.8.3.2	M/E/I Testing	5/21/92	DL	Cancelled
7.8.3.3	Commissioning Procedure	6/5/92	DL	Cancelled
7.8.3.4	Startup & Testing Schedule	8/28/92	DL	Cancelled

Amendment No. 11

Amendment No. 11 is not task oriented as Amendment No. 7 was. Rather, the Program Manager is responsible to the City to provide support oriented service. As stated in the amendment:

> This Scope of Work is based on the Program Manager (PM) providing support services to the City in the administration and management of the Clean Water Program (CWP)

> under the "Consumer's Alternative." [sic] The City has determined which portions of its own staff, and to what extent, must be supplemented by the PM....

The services that the Program Manager is to provide and the person in responsible charge of each service are listed below.

• Program Management Support	John Moutes
• Financial Management/Interagency Coordination Support	Bill Butler
• Public Participation Support	Sara Katz
• Scheduling/Controls and Cost Estimating Support	Jeff Bessa
• Records Management System and Document Control Support	N/A
• Engineering Support	Paul Findley
• Water Reclamation Management Support	John Kennedy
• Residuals Management Support	Bill Kennedy
• Permits and Property Acquisition Support	Tim Daly
• Procurement Support	Bill Weidenbacher
• Special Studies	Sudhir Mohleji
• Special Services	N/A

APPENDIX C
DEFINITIONS

SYSTEMS:

Wastewater System: All components of the City's sewer system, including the Municipal Sewerage System and the Metropolitan Sewerage System and any improvements thereto.

Municipal Sewerage System: The collection and conveyance system for sewage of City users which connects to the Metropolitan Sewerage System.

Metropolitan Sewerage System: The regional conveyance and treatment system for sewage of the City and each Participating Agency. The regional conveyance system begins at the end of the City's and each Participating Agency's local collection and conveyance system.

CAPITAL PROGRAMS:

Consumer's Alternative: A capital improvement program for specific improvements to the Municipal and Metropolitan Sewerage Systems.

Municipal Capital Program: A capital improvement program for capital improvements to the Municipal Sewerage System which includes certain specific projects of the Consumers' Alternative as well as other projects.

Metropolitan Capital Program: A capital improvement program for capital improvements to the Metropolitan Sewerage System which includes certain specific projects of the Consumers' Alternative as well as other projects.

ORGANIZATIONS:

Water Utilities Department: A department within the City with the responsibility to manage the Municipal Sewerage Systems.

Clean Water Program:	An organization within the City with the responsibility to plan, design, and construct those portions of the Consumers' Alternative which are not a portion of the Metropolitan or Municipal Capital Programs (except for certain projects for which the Water Utilities Department has assigned responsibility to the Clean Water Program).
Participating Agencies:	The fifteen adjacent Cities that have entered into sewage disposal agreements with the City.

ABBREVIATIONS:

CIP	Capital Improvement Program
City	The City of San Diego
District	San Diego Area Wastewater Management District
FIRP	Fiesta Island Replacement Project
FY	Fiscal Year
MGD	Million gallons per day
Metro System	Metropolitan Sewerage System
Municipal System	Municipal Sewerage System
O&M	Operations and Maintenance
Report	the Engineer's Statement of Feasibility
Team	High-Point, Damon S. Williams Associates, Dean Ryan Technical Resources, Inc., and F.E. Jordan Associates, Inc.

APPENDIX B

AUDITED FINANCIAL STATEMENTS

OF THE

CITY OF SAN DIEGO SEWERAGE UTILITY SYSTEM

FOR YEARS ENDED JUNE 30, 1991 AND JUNE 30, 1992

APPENDIX B

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INDEPENDENT AUDITORS' REPORT

The Honorable Mayor, City Council
and City Manager of the
City of San Diego, California:

We have audited the accompanying financial statements of the City of San Diego Sewerage Utility as of June 30, 1992 and 1991 and for the years then ended, listed as Exhibits A, B and C in the foregoing table of contents. These financial statements are the responsibility of the City of San Diego's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

As described in Note 1 to the financial statements, the financial statements referred to above present only the Sewerage Utility Enterprise fund of the City of San Diego and are not intended to present the financial position of the City of San Diego, California and results of its operations and the cash flows of its proprietary and similar trust fund types, in conformity with generally accepted accounting principles.

In our opinion, such financial statements present fairly, in all material respects, the financial position of the City of San Diego Sewerage Utility at June 30, 1992 and 1991 and the results of its operations and the cash flows for the years then ended in conformity with generally accepted accounting principles.

Our audit did not comprehend the supplemental information listed as Exhibits D through F, Schedules and Tables listed in the foregoing Table of Contents. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we express no opinion on it.

Deloitte & Touche

November 13, 1992

SEWERAGE UTILITY
FINANCIAL STATEMENTS

Sewerage Utility

BALANCE SHEETS, JUNE 30, 1992 AND 1991

	June 30	
	1992	1991
ASSETS		
UTILITY PLANT:		
Sewerage Plant in Service	$428,870,555	$401,450,550
Construction Work in Process	360,138,630	259,340,078
Total	789,009,185	660,790,628
Less Accumulated Depreciation	111,378,447	102,892,451
TOTAL UTILITY PLANT – NET	677,630,738	557,898,177
ADVANCES TO CITY OF SAN DIEGO INTERNAL SERVICE FUNDS (Note 4)	6,068,008	5,571,133
CONSTRUCTION GRANTS RECEIVABLE	9,135,629	11,478,811
RESTRICTED ASSETS – BOND INTEREST AND REDEMPTION FUNDS:		
Cash or Equity in Pooled Cash and Investments (Note 2)	906,541	1,018,252
Cash with Custodian (Note 2)	103,322	196,566
TOTAL RESTRICTED ASSETS	1,009,863	1,214,818
CURRENT ASSETS:		
Cash or Equity in Pooled Cash and Investments – Sewer Revenue Fund (Note 2)	237,639,324	271,256,334
Accrued Interest Receivable	2,236,087	3,034,286
Accounts Receivable – Principally from Customers (Less Allowance for Doubtful Accounts of $1,734,129 and $1,986,430 Respectively)	27,657,230	23,195,373
Prepaid Expenses	130,766	37,582
TOTAL CURRENT ASSETS	267,665,407	297,522,575
TOTAL ASSETS	$961,509,645	$873,663,514

See Notes to Financial Statements.

Sewerage Utility

EXHIBIT A

	June 30 1992	June 30 1991
LIABILITIES AND EQUITY		
LONG-TERM DEBT:		
Sewer Revenue Bonds – (Note 3)	$15,089,000	$17,296,000
Loan Payable	100,000	100,000
Total	15,189,000	17,396,000
Less Due Within One Year	2,300,000	2,205,000
TOTAL LONG-TERM DEBT	12,889,000	15,191,000
CURRENT LIABILITIES:		
Obligations Under Reverse Repurchase Agreements	29,110,133	38,654,441
Accounts Payable	14,342,161	15,233,807
Accrued Payroll	1,373,252	949,205
Accrued Annual Leave and Sick Leave	2,071,885	1,900,302
Accrued SPSP Contributions Payable	107,441	85,958
Due to Other Funds	2,000,000	0
Liability Claims	529,635	4,500,000
Matured Long-Term Debt	58,250	108,250
Interest Matured on Long-Term Debt	45,072	88,316
Interest Accrued on Long-Term Debt	85,083	97,068
Long-Term Debt Due Within One Year	2,300,000	2,205,000
TOTAL CURRENT LIABILITIES	52,022,882	64,022,447
DEFERRED CREDITS:		
Deferred Contributions in Aid of Construction	4,125,701	162,0[illegible]
Metropolitan Sewer Capacity Service Charge	528,008	575,2[illegible]
Deferred Capacity Charge Municipal System	0	2,420,2[illegible]
Deferred Developers Deposits	6,192,034	5,313,082
Deferred Credit Metropolitan Agencies	0	89,009
TOTAL DEFERRED CREDITS	10,845,741	8,559,883
COMMITMENT AND CONTINGENCIES (Notes 3 and 6)		
EQUITY:		
Contributions in Aid of Construction:		
Federal	49,233,480	48,342,039
State	19,981,737	17,527,344
Municipal	39,014,796	38,959,290
Local	9,484,899	9,484,899
Developers	223,313,277	202,729,987
Capacity Charge	148,298,113	133,559,124
Other	18,881,882	18,881,882
Total Contributions in Aid of Construction	508,168,133	469,384,525
Retained Earnings:		
Invested in Assets of the System	379,583,879	299,542,713
Designated for Future Years' Capital Projects and Operations	0	17,003,166
Total Retained Earnings	379,583,879	316,545,879
TOTAL EQUITY	885,752,012	785,910,404
TOTAL LIABILITIES AND EQUITY	$961,509,645	$873,6[illegible]

Sewerage Utility

STATEMENTS OF INCOME AND RETAINED EARNINGS
FOR THE YEARS ENDED JUNE 30, 1992 AND 1991

EXHIBIT B

	Year Ended June 30	
	1992	1991
OPERATING REVENUES:		
Sewer Service Charges:		
Inside City:		
Domestic	$74,598,257	$71,508,951
Commercial and Industrial	32,465,104	33,322,913
Outside City:		
Domestic, Commercial and Industrial	6,756	9,762
Treatment Plant Service for Others	28,880,874	15,541,533
Total Sewer Service Charges	135,949,001	120,383,159
Other Operating Revenues:		
Aquaculture Operating Grants	1,410,760	962,749
Miscellaneous (Net)	734,550	240,875
TOTAL OPERATING REVENUES	138,094,311	121,586,783
OPERATING EXPENSES (Note 4)	90,839,690	73,673,511
OPERATING INCOME	47,254,621	47,913,272
NONOPERATING REVENUES (EXPENSES):		
Interest Income (Note 2)	18,210,011	21,888,005
Gain (Loss) on Sale/Retirement of Fixed Assets	(261,019)	230,288
Gain on Early Redemption of Bonds	3,669	48,725
Interest Expense – Revenue Bonds (Note 3)	(759,467)	(845,673)
Reverse Repurchase Agreement Interest Expense	(1,000,212)	(3,149,672)
Other	0	7,458,773
TOTAL NONOPERATING REVENUES (EXPENSES)	16,193,002	25,628,444
Transfer In	90,377	24,840,108
Transfer Out	(500,000)	(27,985,005)
NET INCOME	63,038,000	70,396,817
Retained Earnings at Beginning of Year	316,545,879	246,149,062
RETAINED EARNINGS AT END OF YEAR	$379,583,879	$316,545,879

See Notes to Financial Statements.

Sewerage Utility

STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED JUNE 30, 1992 AND 1991

EXHIBIT

	Year Ended June 30	
	1992	1991
CASH FLOWS FROM OPERATING ACTIVITIES		
Operating Income (Loss)	$47,254,621	$47,913,272
Adjustments to Reconcile Operating Income (Loss) to Net Cash Provided By (Used For) Operating Activities:		
Depreciation and Amortization	8,537,235	7,728,094
Changes in Assets and Liabilities:		
(Increase) Decrease in Accounts Receivable:		
Accounts – Net	(4,461,857)	(6,353,875)
(Increase) Decrease in Prepaid and Reimbursable Items and Deposits	(93,184)	(37,582)
Increase (Decrease) in Accounts Payable	(891,746)	11,940,593
Increase (Decrease) in Accrued Payroll	424,047	120,836
Increase (Decrease) in Accrued Annual Leave and Sick Leave	171,563	227,653
Increase (Decrease) in Accrued SPSP Contributions Payable	21,483	14,136
Increase (Decrease) in Due to Other Funds	2,000,000	0
Increase (Decrease) in Liability Claims	(3,970,365)	2,396,057
Increase (Decrease) in Deferred Revenue	2,296,078	(1,321,540)
NET CASH PROVIDED BY (USED FOR) OPERATING ACTIVITIES	51,277,575	62,627,646
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES		
Operating Transfers In (Out) to Other Funds	(409,823)	(3,144,899)
Operating Grants	0	(349,957)
Other NonOperating Revenue	0	7,458,777
Proceeds from (Payments for) Advances and Deposits	(496,675)	(1,234,89[illegible]
NET CASH PROVIDED BY (USED FOR) NONCAPITAL FINANCING ACTIVITIES	(906,498)	2,729,022
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
Proceeds from the Issuance of Long–Term Debt	0	100,000
Proceeds from Contributed Capital	18,587,656	11,830,538
Acquisition of Fixed Assets	(107,973,681)	(70,088,237)
Principal Paid on Long–Term Debt	(2,253,311)	(2,354,279)
Interest Paid on Long–Term Debt	(814,696)	(1,067,375)
NET CASH PROVIDED BY (USED FOR) CAPITAL AND RELATED FINANCING ACTIVITIES	(92,454,032)	(61,579,349)
CASH FLOWS FROM INVESTING ACTIVITIES		
Net (Purchases) Sales of Investments	(9,744,306)	(28,179,220)
Interest and Dividends Received on Investments	19,006,210	21,371,603
Reverse Repurchase Agreement Interest Paid	(1,000,212)	(3,149,672)
NET CASH PROVIDED BY (USED FOR) INVESTING ACTIVITIES	8,261,690	(7,957,289)
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(33,820,965)	(4,179,970)
Cash and Cash Equivalents at July 1, 1991	272,470,152	276,650,122
CASH AND CASH EQUIVALENTS AT JUNE 30, 1992	$238,649,187	$272,470,152

See Notes to Financial Statements.

1. ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Sewerage Utility is included in the administrative organization of the City of San Diego (the "City"); its financial information and records are established and maintained by the City.

The accounting policies of the Sewerage Utility conform to Generally Accepted Accounting Principles ("GAAP") applicable to governmental units. The following is a summary of the more significant of such policies:

A. Basis of Presentation

The financial activities of the Sewerage Utility are accounted for and reported as an Enterprise Fund of the City. The measurement focus is upon determination of net income, financial position and changes in financial position.

Enterprise Funds are used to account for operations (a) that are financed and operated in a manner similar to private business enterprises-where the intent of the governing body is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges; or (b) where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or net income is appropriate for capital maintenance, public policy, management control, accountability or other purposes.

B. Basis of Accounting

The Sewerage Utility uses the accrual basis of accounting. Under the accrual basis of accounting, revenues are recognized when earned, and expenses are recorded when incurred. Estimated unbilled revenues are recognized at the end of each fiscal year. This estimated amount is based on billings during the month following the close of the fiscal year.

C. Restricted Assets

Proceeds from debt issuances and funds set aside for payment of sewer revenue bonds are classified as restricted assets since their use is limited by applicable bond indentures.

D. Utility Plant

Utility plant in service and land are stated at estimated cost based on amounts appraised on July 1, 1959, plus subsequent additions generally at cost or, in the case of contributions in aid of construction, at cost or appraised value at the date of contribution. The utility plant is depreciated by the straight-line method over estimated useful lives of five to seventy-five years.

E. Employee Annual Leave

The Sewerage Utility provides combined annual leave to cover both vacation and sick leave. It is the Sewerage Utility's policy to permit employees eligible for the Management Benefits Plan to accumulate up to 17.5 weeks of earned but unused annual leave and all other employees to accumulate up to 15 weeks of earned but unused annual leave. Accumulation of these earnings will be paid to employees upon separation from service. Excess accumulated annual leave amounts not used by employees are forfeited on an annual basis.

F. Claims and Judgments

Costs of claims and judgments are recorded when the liability is incurred and measurable.

G. Contributions in Aid of Construction

Additions to contributions in aid of construction (approximately $36,804,000 in 1992 and $18,616,000 in 1991) represents facilities or cash contributed for facility construction by property owners or government agencies. Cash contributions in aid of construction for meters and service are classified as deferred credits until the facilities have been installed.

H. Statement of Cash Flows

All of the Sewerage Utility's "Cash with Custodian" and "Cash or Equity in Pooled Cash and Investments" are classified as cash and cash equivalents.

I. Comparative Data

Certain of the prior year amounts have been reclassified to conform with current year financial statement presentations.

2. CASH AND INVESTMENTS

A. Cash with Custodian

Cash with Custodian represents funds held by a bank trustee on behalf of the Sewerage Utility for the payment of principal and interest to bondholders. Since such cash is held by the bank's trust department, it is not covered by federal depository insurance or collateralized by securities owned by the bank.

B. Cash or Equity in Pooled Cash and Investments

Other cash resources of the Sewerage Utility are combined with the cash resources of the City to form a pool of cash that is managed by the City Treasurer.

As provided for by the Government Code, the cash balance of substantially all City funds and certain entities are pooled and invested by the City Treasurer for the purpose of increasing interest earnings through investment activities. The Sewerage Utility's net share of the total pooled cash and investments is included in the accompanying balance sheet under the captions "Cash or Equity in Pooled Cash and Investments" and "Obligations under Reverse Repurchase Agreements". Interest earned on pooled investments is deposited to certain of the participating City funds and entities, including the Sewerage Utility, based upon each fund's and each entity's average daily deposit balance during the allocation period with all remaining interest deposited to the City's General Fund.

The City may transact business only with banks, savings and loans, and investment securities dealers who are primary dealers regularly reporting to the New York Federal Reserve Bank. Exceptions to this rule can be made only upon written authorization of the City Treasurer. Authorized cash deposits and investments are governed by state law, as well as by the City's own written investment policy. Within the context of these limitations, permissible investments include (1) obligations of the U.S. government and federal agencies, (2) commercial paper rated A-1 by Standard & Poor's Corporation or P-1 by Moody's Commercial Paper Record, (3) bankers' acceptances, (4) negotiable and/or non-negotiable certificates of deposit and non-negotiable time deposits issued by a nationally or state chartered bank or a state or federal savings and loan association, (5) repurchase and reverse repurchase agreements, (6) the local agency investment fund established by the state treasurer and (7) financial futures contracts in any of the other authorized investments which are used to offset an existing financial position and not for outright speculation.

3. LONG-TERM DEBT

Long-term debt as of June 30, 1992 and 1991 is comprised of the following:

Type of Obligation	Interest Rates	Maturity Date	Original Amount	Balance Outstanding June 30, 1992	Balance Outstanding June 30, 1991
Sewer Revenue Bonds of 1961, issued June 1961	4.0%	1998	$42,500,000	$ 7,409,000	$ 8,711,000
Sewer Revenue Bonds, 1966 Series A issued May 1968	4.8-5.0	1998	5,000,000	3,220,000	3,505,000
Sewer Revenue Bonds 1966 Series B, issued September 1968	5.1	1998	10,000,000	4,460,000	5,080,000
Loan payable to County of San Diego	0	N/A	100,000	100,000	100,000
Total Long-Term Debt			$57,600,000	$15,189,000	$17,396,000

A sinking fund has been established for the sewer revenue bonds whereby sufficient funds must be set aside to purchase or call and redeem the bonds in minimum annual principal amounts of $1,300,000 through 1998.

The Sewer Revenue Bonds may be redeemed prior to maturity at specified dates and at certain premiums. The bond ordinances limit additional revenue debt financing, preclude further encumbering of the sewer user charge revenue and prohibit the disposition or lease of the utility plant in service, unless certain conditions are met in each instance. The management of the Sewerage Utility is of the opinion that all significant bond covenant requirements have been met.

Annual requirements to amortize such long-term debt as of June 30, 1992, including interest payments to maturity are as follows:

Year Ending June 30,	Sewer Revenue Bonds
1993	$ 2,971,820
1994	2,979,170
1995	2,975,980
1996	2,977,510
1997	2,978,250
1998	2,686,950
Total	17,569,680
Less - Amounts representing interest	(2,380,680)
Total	$ 15,189,000

4. TRANSACTIONS WITH THE CITY OF SAN DIEGO

The Sewerage Utility has financed the acquisition by the City's Internal Service Funds of certain vehicles and supplies used by the Sewerage Utility. The Internal Service Funds charge the Sewerage Utility for the use of the vehicles and supplies. However, there is no specific provision for the repayment of these advances or interest on them. It is the City's general intent that the advances be repaid as the financial condition of the Internal Service Funds permit. Some repayments have been made in prior years. Included in operating expenses is approximately $2,529,000 in 1992 and $2,462,000 in 1991 charged by the City to the Sewerage Utility for general government expenditures incurred by the City. Such charges are based on a pro-rata portion of general government expenditures applicable to the Sewerage Utility.

A portion of the utility plant, known as the Metropolitan Sewer System, was financed through a Federal grant. The grant was made to the Sewerage Utility and participating cities and sanitation districts served by the System. Grant funds received by the Sewerage Utility through participating agencies pay the Sewerage Utility for contracted capacity rights and share in the maintenance and operating costs.

The Sewerage Utility provides sewer services to the City at commercial rates. Such revenues were approximately $499,000 in 1992 and $572,000 in 1991.

The Sewerage Utility paid approximately $4,546,000 in 1992 and $3,975,000 in 1991 for computer services provided by the San Diego Data Processing Corporation, a non-profit corporation, of which the City is the sole member.

5. PENSION PLANS

The Sewerage Utility participates in the City's defined benefit plan and two (2) defined contribution pension plans which cover substantially all of its employees.

DEFINED BENEFIT PLAN

A. Plan Description

All of the City and San Diego Unified Port District (the "District") full-time employees participate in the City Employees' Retirement System ("CERS"), an agent multiple-employer public employee retirement system that acts as a common investment and administrative agent for the City and the District. For the year ended June 30, 1992 the City's payroll for employees covered by CERS was approximately $312,491,000 while the City's total payroll was approximately $351,560,000.

All full-time City employees are eligible to participate in CERS. Retirement benefits are determined primarily by the member's age at retirement, the length of membership service and the member's final compensation. Final compensation is the members' compensation earnable based on the highest one-year period. Benefits fully vest on reaching 10 years of service. CERS also provides death and disability benefits. Benefits are established by the City's Municipal Code.

City employees are required to contribute a percentage of their annual salary to CERS. The City is required to contribute the remaining amounts necessary to fund CERS, using the actuarial basis specified by statute.

B. Funding Status and Progress

The amount shown below as the "pension benefit obligation" is a standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases and step-rate benefits, estimated to be payable in the future as a result of employee service to date. The measure is intended to help users assess the funding status of CERS on a going-concern basis, assess progress made in accumulating sufficient assets to pay benefits when due, and make comparisons among employers. The measure is the actuarial present value of credited projected benefits, and is independent of the funding method used to determine contributions to CERS.

The pension benefit obligation was computed as part of an actuarial valuation performed as of June 30, 1991. Significant actuarial assumptions used in the valuation include (a) a rate of return on the investment of present and future assets of 8 percent a year compounded annually, (b) projected salary increases of 5½ percent a year compounded annually (1.3 percent due to merit and 4.2 percent due to inflation), (c) up to a 2 percent per annum cost of living assumption, and (d) the Group Annuity Mortality Table with a 2 year setback for males.

Accumulated benefits and net assets for the City's defined benefit plan as June 30, 1991, the most recent actuarial valuation, are as follows (in thousands):

Pension benefit obligation:	
Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	$419,016
Current employees:	
Accumulated employee contributions including allocated investment earnings	130,790
Employer-financed vested	327,291
Employer-financed nonvested	32,723
Total pension benefit obligation	909,820
Net assets available for benefits, at cost	859,588
Unfunded pension benefit obligation	$ 50,232

The market value of the net assets was approximately $930,151,000 at June 30, 1991.

The number of employees and covered membership are as follows:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	3,569
Fully vested active employees	2,862
Nonvested active employees	5,692

C. Actuarially Determined Contribution Requirements and Contribution Made

Contributions to CERS from City employees vary according entry age and salary. The City contributes a portion of the employees' share and the remaining amount necessary to fund the system based on an actuarial valuation at the end of the preceding year under the entry age normal cost method. The entry age normal cost method defines the normal cost as the level percent of payroll needed to fund benefits over the period from the date of participation to the date of retirement. Beginning with the June 30, 1992 valuation, contributions will be based on the projected unit credit method of actuarial valuation. Initial prior service costs are being amortized over a period of 30 years. Additional prior service costs due to plan change in 1965 are being amortized over 30 years.

The significant actuarial assumptions used to compute the actuarially determined contribution requirement are the same as those used to compute the pension benefit obligation as described above.

The contribution to CERS for 1992 of $40,878,000 was made in accordance with actuarially determined requirements computed through an actuarial valuation performed as of June 30, 1990. (The June 30, 1991 valuation was not received by the City until April, 1992.) The contribution consisted of (a) $40,219,000 normal cost (12.9 percent of current covered payroll) and (b) $659,000 amortization of the unfunded actuarial accrued liability (.21 percent of covered payroll). The City contributed $27,381,000 (8.8 percent of covered payroll); employees contributed $13,497,000 (4.3 percent of covered payroll).

D. Trend Information

Trend information gives an indication of the progress made in accumulating sufficient assets to pay benefits when due. Ten-year trend information may be found on page 19 of the City's Comprehensive Annual Financial Report. For the three fiscal years ended 1989, 1990 and 1991, respectively, available assets were sufficient to fund 94.6, 94.8 and 94.5 percent of the City's pension benefit obligation. Unfunded pension benefit obligation represented 13.8, 16.5 and 18.1 percent of the City's annual payroll for employees covered by CERS for 1989, 1990, and 1991, respectively. Showing unfunded pension benefit obligation as a percentage of annual covered City payroll approximately adjusts for the effects of inflation for analysis purposes. In addition for the three (3) fiscal years ended 1989, 1990 and 1991, the City's contributions to CERS, all made in accordance with actuarially determined requirements, were 10.0, 11.0 and 12.7 percent respectively of annual covered payroll.

Plan data for the plan year ended June 30, 1992 is not yet available.

DEFINED CONTRIBUTION PLANS

A. Pursuant to the City's withdrawal from the Federal Social Security System effective January 1982, the City provides pension benefits for eligible full-time employees through a supplemental pension and savings plan, a defined contribution plan. In a defined contribution plan, benefits depend solely on amounts contributed to the plan plus investment earnings. Employees are eligible to participate from the date of employment. State legislation requires that both the employee and the City contribute an amount equal to 3% of the employees total salary each month. Participants in the plan hired before April 1, 1986 and on or after April 1, 1986 may voluntarily contribute up to an additional 4.5% and 3.05%, respectively, of total salary. The City also contributes an amount equal to the employee voluntary contributions. The City's contributions for each employee (and interest allocated to the employee's account) are fully vested after five years' continuous service. City contributions for, and interest forfeited by, employees who leave employment before five years of service are used to reduce the City's contribution requirements.

The City's total payroll in fiscal year 1992 was approximately $351,560,000. The City's contributions were calculated using the salary amount of approximately $234,373,000. The City and the covered employees each contributed approximately $14,067,000 (6.0%) or approximately $28,134,000 in total.

B. In addition, the City provides pension benefits for all eligible full-time employees through the 401(k) Deferred Compensation Plan, also a defined contribution plan. Employees are eligible to participate twelve months after the date of employment. Employees make contributions to their 401(k) accounts through payroll deductions, and may also elect to have the City contribute to their 401(k) accounts through the City's Employees' Flexible Benefits Program.

The City's total payroll in fiscal year 1992 was approximately $351,560,000. The City's contributions were pursuant to various contractual arrangements with employees. The City and the covered employees contributed approximately $2,183,000 and approximately $2,017,000 respectively, or approximately $4,200,000 in total.

POSTRETIREMENT HEALTH INSURANCE

In addition to providing pension benefits, the City provides postretirement healthcare benefits to retired general and safety members of CERS who retired on or after October 6, 1980. At June 30, 1992 approximately 1400 retirees were eligible and received post employment health insurance. Currently, expenses for post-employment health care benefits are recognized as they are paid. For the fiscal year ended June 30, 1992, expenditures of approximately $2,513,000 were recognized for such healthcare benefits.

6. COMMITMENTS AND CONTINGENCIES

The Sewerage Utility's construction plans for various projects are estimated to cost approximately $191,731,000. As of June 30, 1992, the Utility's contractual commitments for the projects totalled approximately $164,669,000. The Utility intends to finance the contractual commitments with approved State and Federal grants and service charges.

The Sewerage Utility is self-insured for general liability claims. At June 30, 1992, the Sewerage Utility has recorded approximately $530,000 for such claims. These amounts represent the Utility's determination of the probable ultimate cost of the claims.

The Sewerage Utility has stipulated to upgrading its sewer treatment facilities in settlement of a portion of a suit filed by the United States and the State of California against the City. The costs could range from chemical treatment of sewage to construction of new treatment facilities which could be in excess of $2 billion borne by utility users fees.

Sewerage Utility

NET REVENUE AVAILABLE FOR DEBT SERVICE
FOR THE YEARS ENDED JUNE 30, 1992 AND 1991

EXHIBIT D

UNAUDITED

	Year Ended June 30	
	1992	1991
TOTAL OPERATING REVENUES (Exhibit B)	$138,094,311	$121,586,783
OPERATING EXPENSES:		
Transmission	16,202,921	22,266,347
Treatment and Disposal Plant	43,727,966	26,259,741
Special Projects	5,730,384	3,289,809
Accounting	2,117,041	1,498,597
General and Administrative	14,524,143	12,632,923
TOTAL OPERATING EXPENSES	82,302,455	65,945,417
OPERATING INCOME	55,791,856	55,641,366
OTHER INCOME (CHARGES):		
Operating Transfer In/(Out)	(409,623)	(3,144,899)
Trunk Line Sewer Area Charge	28,177	156,378
Capacity Charge Municipal System	12,365,388	10,657,003
Interest Income	18,210,011	21,886,005
Reverse Repurchase Agreement Interest Expense	(1,000,212)	(3,149,672)
Other Income	0	7,458,773
TOTAL OTHER INCOME	29,211,741	33,863,588
NET REVENUE AVAILABLE FOR DEBT SERVICE (As Defined by Bond Ordinance)	$85,003,597	$89,504,954

DEBT SERVICE COVERAGE

(Earnings Times Debt Service)

The Principal and Interest Due in Fiscal Year Ending June 30, 1992 ($2,974,770) Covered	28.57	
The Principal and Interest Due in Fiscal Year Ending June 30, 1991 ($2,969,120) Covered		30.15

Sewerage Utility

EXPENSES
ALLOCATION FOR BILLING TO METROPOLITAN SYSTEM
YEAR ENDED JUNE 30, 1992

EXHIB

UNAUDITED

	Operating Expenses			
	Municipal System	Metropolitan System	Clean Water System	Total
TRANSMISSION:				
Cleaning and Stoppage Removals, Mains and Laterals	$724,476	$0	$0	$724,476
Accrued Claims	529,635	0	0	529,635
Maintenance and Laterals	490,408	0	0	490,408
Maintenance of Mains and Manholes	3,874,956	38,254	0	3,913,210
Sewage Pumping Stations	4,341,811	6,203,381	0	10,545,192
TOTAL TRANSMISSION	9,961,286	6,241,635	0	16,202,921
TREATMENT AND DISPOSAL:				
Cogeneration Facilities	0	1,475,542	0	1,475,542
Point Loma Plant	0	34,177,810	0	34,177,810
Escondido System	549,251	0	0	549,251
Sewage Testing and Control	3,291,715	4,233,648	0	7,525,363
TOTAL TREATMENT AND DISPOSAL	3,840,966	39,887,000	0	43,727,966
SPECIAL PROJECTS:				
Administration	0	0	966,376	966,376
General Expense	0	0	4,764,008	4,764,008
TOTAL SPECIAL PROJECTS	0	0	5,730,384	5,730
ACCOUNTING SERVICES:				
General Accounting	323,724	0	0	323,724
Utility Commercial	1,793,317	0	0	1,793,317
TOTAL ACCOUNTING SERVICES	2,117,041	0	0	2,117,041
GENERAL, ADMINISTRATIVE AND TAXES:				
Utilities Administration and General Expenses	5,273,793	3,711,621	0	8,985,414
Expenses of Other City Departments Applicable to Sewerage Utility	1,202,909	1,162,442	308,355	2,673,706
Engineering Expenses	1,945,232	169,404	750,387	2,865,023
TOTAL GENERAL, ADMINISTRATIVE AND TAXES	8,421,934	5,043,467	1,058,742	14,524,143
TOTAL EXPENSES	24,341,227	51,172,102	6,789,126	82,302,455
UNALLOCATED COSTS	0	0	(1,405,349)	(1,405,349)
OVERHEAD ALLOCATION TO CONSTRUCTION	0	(61,299)	(231,875)	(293,174)
RECONSTRUCTION AND REPLACEMENT OF NET ALLOCATION.	0	14,582,620	8,387,822	22,970,442
ADJUSTMENT FOR PRIOR YEAR'S EXPENSES	0	0	0	0
METROPOLITAN SYSTEM INCOME CREDITS	0	(618,824)	(62,319)	(681,143)
TOTAL ALLOCATION FOR BILLING PURPOSES	$24,341,227	$65,074,599	$13,477,405	$102,893,23

Sewerage Utility

CHANGES IN FUNDS AVAILABLE FOR APPROPRIATION
FOR THE YEAR ENDED JUNE 30, 1992

EXHIBIT F

UNAUDITED

	SEWER REVENUE FUND
Funds Available for Appropriation at July 1, 1991	$0
Add:	
Cash Receipts (Schedule F–1)	170,726,689
Anticipated Contributions from Other Agencies at June 30, 1992	18,916,593
Accrued Annual Leave and Sick Leave at July 1, 1991	1,900,302
Continuing Appropriations at July 1, 1991	62,550,232
Continuing Appropriations Encumbered at July 1, 1991	155,055,447
Designated for Subsequent Years' Capital Projects and Operations at July 1, 1991	17,003,166
Prior Years' Encumbrances Cancelled	6,878,924
Total Balances and Additions	433,031,353
Deduct:	
Expenditures and Encumbrances (Schedule F–2)	372,810,369
Anticipated Contributions from Other Agencies at July 1, 1991	32,989,801
Accrued Annual Leave and Sick Leave at June 30, 1992	2,071,864
Designated for Subsequent Years' Capital Projects and Operations at June 30, 1992	0
Continuing Appropriations at June 30, 1992	25,159,319
FUNDS AVAILABLE FOR APPROPRIATION AT JUNE 30, 1992	$0

The Sewer Revenue Fund (Municipal Code Sec. 64.31) is used to account for the receipts expenditures of revenue derived from operation of the sewer system of the Water Utilities Department. The Charter, Sec. 90.2 Sub. 88, provides that "all revenues shall be paid into the Sewer Revenue Fund and shall be used for the following purposes: (1) paying the cost of maintenance and operation of the sewer system; (2) paying principal and interest (including payments into any reserve or sinking fund) and premiums, if any, upon redemption, of sewer revenue bonds issued under this section and payable from said Sewer Revenue Fund; (3) paying all or any part of the cost and expense of extending, reconstructing, or improving the sewer system or any part thereof or making additions to such system; (4) transferring from any surplus in the Sewer Revenue Fund to the Capital Outlay Fund, at one time or from time–to–time, all or any part of the sums expended from said Capital Outlay Fund after July 1, 1980, for any purpose for which revenue bonds may be issued under this section; (5) paying from any surplus in the Sewer Revenue Fund principal or interest, or both, or any part thereof, of general obligation bonds heretofore or hereafter issued for any purpose for which revenue bonds may be issued under this section."

Sewerage Utility

CHANGES – PLANT IN SERVICE
FOR THE YEAR ENDED JUNE 30, 1992

SCHEDULE 1

UNAUDITED

	Balance at July 1, 1991	Additions	Retirements	Balance at June 30, 1992
MUNICIPAL SEWERAGE SYSTEM:				
Land and Land Rights:				
Sewer Mains	$512,151	$0	$3	$512,148
Pumping Systems	2,319,379	0	0	2,319,379
Treatment and Disposal	467	0	0	467
Sewer Service Laterals	50,515,811	1,956,641	1,433	52,471,019
Sewer Mains	251,476,565	18,163,833	350,522	269,289,876
Meters and Measuring Devices:				
Structures and Improvements	42,960	0	0	42,960
Equipment	121,313	0	0	121,313
Pumping System:				
Structures and Improvements	6,537,869	500,001	0	7,037,870
Equipment	1,497,489	0	0	1,497,489
Treatment and Disposal Plant:				
Capacity Rights:				
City of Escondido Sewerage System	4,474,873	0	0	4,474,873
Laboratory and Office Furniture and Equipment	550,342	195,712	0	746,054
General Plant:				
Structures and Improvements	200,167	0	0	200,167
Office Furniture and Equipment	755,711	53,002	735	807,978
Portable Equipment	585,200	128,821	0	714,021
TOTAL MUNICIPAL SEWERAGE SYSTEM	319,590,297	20,998,010	352,693	340,235,614
METROPOLITAN SEWERAGE SYSTEM:				
Land and Land Rights:				
Interceptor Mains	589,780	0	0	589,780
Pumping System	49,605	0	0	49,605
Treatment and Disposal Plants	860,322	0	0	860,322
Interceptor Mains	37,854,933	0	0	37,854,933
Pumping System:				
Structures and Improvements	5,175,723	1,274,311	0	6,450,034
Equipment	3,341,300	0	0	3,341,300
Treatment and Disposal Plant:				
Structures and Improvements	12,314,879	4,046,079	0	16,360,958
Equipment	5,930,069	463,255	0	6,393,324
Laboratory and Office Furniture and Equipment	1,632,270	438,173	1,161	2,069,282
General Transportation Equipment	68,674	0	0	68,674
General Plan Portable Equipment	1,732,290	323,945	0	2,056,235
Ocean Outfall Intake:				
Structures and Improvements	1,780,974	0	9	1,780,965
Equipment	323,840	0	0	323,840
Ocean Outfall Line	9,301,041	0	0	9,301,041
Sludge Disposal Line	391,232	0	0	391,232
Monitoring Vessels	293,772		0	293,772
TOTAL METROPOLITAN SEWERAGE SYSTEM	81,640,704	6,545,763	1,170	88,185,297
CLEAN WATER PROGRAM:				
General Office Furniture and Equipment	219,549	230,711	616	449,644
TOTAL CLEAN WATER PROGRAM	219,549	230,711	616	449,644
TOTAL SEWERAGE PLANT IN SERVICE	$401,450,550	$27,774,484	$354,479	$428,870,5[illegible]

Sewerage Utility

BONDED DEBT
JUNE 30, 1992

SCHEDULE A-2

UNAUDITED

Title of Issue	Year of Issue/ Maturity	Coupon Rate of Interest	Effective Rate of Interest	Amount Sold	Amount Retired: Prior to July 1, 1991	Amount Retired: During 1991-1992	Amount Retired: Total	Amount Outstanding June 30, 1992
REVENUE BONDS								
Sewer Revenue Bonds, 1961 Term Bonds	1961/1993	4.00%	4.03%	$26,000,000	$17,289,000	$1,302,000	$18,591,000	$7,409,000
Sewer Revenue Bonds, 1966 A	1966/1993	5.00	4.97	3,730,000	225,000	285,000	510,000	3,220,000
Sewer Revenue Bonds, 1966 B	1966/1993	5.10	5.07	7,590,000	2,510,000	620,000	3,130,000	4,460,000
TOTAL REVENUE BONDS				$37,320,000	$20,024,000	$2,207,000	$22,231,000	$15,089,000

BONDED DEBT REQUIREMENTS FOR PRINCIPAL MATURITIES AND INTEREST

JUNE 30, 1992

SCHEDULE A-

UNAUDITED

SEWER REVENUE BONDS

	Annual Requirements		
Fiscal Year	Principal	Interest	Total
1992-93	$2,300,000	$671,820	$2,971,820
1993-94	2,410,000	569,170	2,979,170
1994-95	2,515,000	460,980	2,975,980
1995-96	2,630,000	347,510	2,977,510
1996-97	2,750,000	228,250	2,978,250
1997-98	2,484,000	102,950	2,586,950
TOTAL REVENUE BONDS	$15,089,000	$2,380,680	$17,469,680

Sewerage Utility

OPERATING EXPENSES
FOR THE YEARS ENDED JUNE 30, 1992 AND 1991

SCHEDULE B-1

UNAUDITED

	Year Ended June 30	
	1992	1991
TRANSMISSION:		
Sewer Line Expenses:		
Cleaning and Stoppage Removals, Mains and Laterals	$724,476	$3,234,529
Accrued Claims	529,635	2,396,057
Maintenance and Laterals	490,408	364,727
Maintenance of Mains and Manholes	3,913,210	6,564,875
Sewerage Pumping Stations	10,545,192	9,708,159
TOTAL TRANSMISSION	16,202,921	22,268,347
TREATMENT AND DISPOSAL:		
Cogeneration Facilities	1,475,542	1,481,013
Point Loma Plant	34,177,810	16,408,005
Escondido System	549,251	1,152,682
Sewage Testing and Control	7,525,363	7,220,061
TOTAL TREATMENT AND DISPOSAL	43,727,966	26,259,741
SPECIAL PROJECTS:		
Administration	966,376	3,186,834
General Expense	4,764,008	102,975
TOTAL SPECIAL PROJECTS	5,730,384	3,289,809
ACCOUNTING SERVICES:		
General Accounting	323,724	237,007
Utility Commercial	1,793,317	1,259,580
TOTAL ACCOUNTING SERVICES	2,117,041	1,496,587
GENERAL AND ADMINISTRATIVE:		
Utilities Administration and General Expense	9,040,299	7,829,236
Expense of Other City Departments Applicable to the Sewerage Utility	2,673,708	2,589,975
Engineering Expenses	2,865,023	2,115,034
Uncollectible Accounts	(54,885)	98,678
TOTAL GENERAL AND ADMINISTRATIVE	14,524,143	12,632,923
DEPRECIATION	8,537,235	7,728,084
TOTAL OPERATING EXPENSES (Exhibit B)	$90,839,690	$73,673,511

Sewerage Utility

ESTIMATED AND ACTUAL CASH RECEIPTS
FOR THE YEAR ENDED JUNE 30, 1992

SCHEDULE F-1

UNAUDITED

	Estimate	Actual	Actual Over or (Under) Estimate
Sewer Service Charges	$106,803,000	$104,764,887	($2,038,113)
New Sewer Service Connections	201,000	119,187	(81,813)
Sewage Treatment Plant Services	36,141,700	25,303,678	(10,838,022)
Sludge Handling Charge	78,000	103,962	25,962
Interest Earnings	15,604,000	18,011,691	2,407,691
Services Rendered Other Funds	355,100	563,626	208,526
Services Rendered Others	107,300	801,379	694,079
Trunk Line Sewer Area Charges	0	28,177	28,177
Capacity Charge Municipal System	9,397,000	12,385,388	2,988,388
Sale of Electricity/Gas Engine Generation	329,000	350,821	21,821
Bond Proceeds	144,453,000	0	(144,453,000)
Contributions in Aid	9,644,700	7,878,962	(1,765,738)
Other Revenue	729,200	416,931	(312,269)
TOTAL RECEIPTS (Exhibit F)	$323,843,000	$170,728,689	($153,116,3[illegible]

APPROPRIATIONS, EXPENDITURES AND ENCUMBRANCES
FOR THE YEAR ENDED JUNE 30, 1992

SCHEDULE F-2

UNAUDITED

	Appropriation	Expenditures	Encumbrances	Total	Unencumbered Balance
Maintenance and Operation:					
Salaries and Wages	$20,808,583	$19,607,222	$0	$19,607,222	$1,201,361
Supplies and Expenses	73,036,968	62,953,025	15,383,775	78,336,800	(5,299,832)
Total Maintenance and Operation	93,845,551	82,560,247	15,383,775	97,944,022	(4,098,471)
Outlay:					
Salaries and Wages	4,123,021	2,749,247	0	2,749,247	1,373,774
Construction	293,600,921	103,243,485	164,669,101	267,912,586	25,688,335
Equipment	1,622,108	639,041	589,183	1,228,224	393,884
Total Outlay	299,346,050	106,631,773	165,258,284	271,890,057	27,455,993
Revenue Bond Interest and Redemption	2,944,000	2,976,290	0	2,976,290	(32[illegible]
TOTAL (Exhibit F)	$396,135,601	$192,168,310	$180,642,059	$372,810,369	$23,325,232

Sewerage Utility

COMPARATIVE STATISTICS – LAST 25 YEARS

UNAUDITED

Fiscal Year	Revenue	Maintenance & Operations Expenses	Depreciation/ Amortization	Bonded Debt Interest	Net Income (Net Loss)	Sewerage Utility Plant
1991 – 1992	$156,398,388	$84,063,686	$8,537,235	$759,467	$63,038,000	$789,009,185
1990 – 1991	176,050,678	97,080,094	7,728,094	845,673	70,396,817	660,790,628
1989 – 1990	135,010,158	49,310,391	7,595,851	846,801	77,157,315	584,655,754
1988 – 1989	105,569,993	52,554,119	7,202,283	1,188,064	44,625,537	533,924,815
1987 – 1988	79,905,782	43,078,783	6,552,549	1,083,428	29,181,022	495,983,544
1986 – 1987	68,507,808	40,399,201	4,793,238	1,172,475	20,142,892	428,717,530
1985 – 1986	61,537,979	40,875,962	4,608,729	1,243,379	14,811,909	387,899,143
1984 – 1985	52,213,372	33,411,136	4,358,260	1,317,408	13,126,568	361,977,583
1983 – 1984	46,954,543	29,025,029	4,270,337	1,420,917	12,238,260	341,833,354
1982 – 1983	38,361,779	27,903,104	4,334,128	1,477,618	2,646,929	325,624,027
1981 – 1982	33,920,624	21,445,160	4,154,343	1,578,205	6,744,916	305,365,349
1980 – 1981	30,272,181	19,028,298	3,708,580	1,657,259	5,877,074	272,083,788
1979 – 1980	25,155,663	14,380,431	3,490,499	1,732,564	5,532,179	253,618,444
1978 – 1979	17,561,366	9,996,880	3,288,831	1,846,145	2,432,510	237,556,808
1977 – 1978	14,481,158	8,548,148	3,105,951	1,888,888	940,173	227,473,005
1976 – 1977	12,812,758	7,435,388	2,818,588	1,943,352	615,452	218,328,880
1975 – 1976	13,246,486	7,150,653	2,798,775	2,082,142	1,216,928	205,243,617
1974 – 1975	11,430,127	6,151,888	2,532,588	2,134,392	611,279	192,958,952
1973 – 1974	10,689,884	4,770,672	2,405,586	2,183,642	1,329,984	182,987,436
1972 – 1973	9,884,454	4,427,592	2,198,512	2,228,868	1,031,394	171,547,467
1971 – 1972	9,354,922	4,071,682	2,283,880	2,271,022	718,558	149,424,423
1970 – 1971	9,467,476	3,762,098	2,346,443	2,327,213	1,051,732	139,387,048
1969 – 1970	8,815,880	3,341,332	2,070,009	2,379,443	1,025,096	130,178,151
1968 – 1969	8,220,036	3,237,075	1,974,679	2,232,909	755,373	125,072,248
1967 – 1968	7,302,632	2,788,888	1,877,189	1,793,541	883,236	123,967,241
1966 – 1967	5,942,096	2,702,849	1,817,242	1,736,634	(314,629)	122,871,786

Sewerage Utility

TABLE

Bonded Debt	Retained Earnings	Total System Flow in Million Gallons: Point Loma Plant–Metro	Municipal Plant	Total Flow	Fiscal Year
$15,089,000	$379,583,879	64,144.650	1,177.417	65,322.067	1991 – 1992
17,296,000	316,545,879	64,819.740	1,365.091	66,184.831	1990 – 1991
19,439,000	246,149,062	69,463.382	1,405.081	70,868.463	1989 – 1990
21,461,000	168,991,747	66,951.182	1,425.883	68,377.065	1988 – 1989
23,411,000	125,792,132	66,545.240	1,316.763	67,862.003	1987 – 1988
25,298,000	96,575,236	63,690.392	1,270.092	64,960.484	1986 – 1987
27,133,000	76,432,344	54,434.425	1,209.691	55,644.116	1985 – 1986
29,063,000	61,620,435	51,818.921	1,217.721	53,036.642	1984 – 1985
31,247,000	48,493,867	50,247.377	1,210.064	51,457.441	1983 – 1984
33,492,000	36,255,607	49,287.413	1,190.283	50,477.696	1983 – 1984
35,658,000	35,170,704	48,486.180	932.985	49,419.165	1982 – 1983
37,683,000	28,425,788	47,271.910	992.238	48,264.148	1981 – 1982
39,357,000	22,548,714	47,722.390	1,073.023	48,795.413	1980 – 1981
41,135,000	17,016,535	45,918.285	943.983	46,862.268	1979 – 1980
42,672,000	14,584,025	43,414.000	938.139	44,352.139	1978 – 1979
44,517,000	13,643,852	43,043.860	731.222	43,775.082	1977 – 1978
47,350,000	13,028,400	40,373.910	674.953	41,048.863	1976 – 1977
48,750,000	11,811,474	39,393.540	644.093	40,037.633	1975 – 1976
50,100,000	11,200,195	36,176.540	562.368	36,738.908	1974 – 1975
51,400,000	9,870,231	36,149.400	470.321	36,619.721	1973 – 1974
52,600,000	8,838,837	33,729.820	897.640	34,627.460	1972 – 1973
53,700,000	8,120,279	31,966.330	845.552	32,811.882	1970 – 1971
54,700,000	7,068,547	29,608.170	708.878	30,317.048	1969 – 1970
55,600,000	6,043,451	30,425.900	613.681	31,039.581	1968 – 1969
46,400,000	5,288,078	29,105.880	473.663	29,579.543	1967 – 1968
41,400,000	404,842	28,378.860	473.242	28,852.102	1966 – 1967

Sewerage Utility

GENERAL STATISTICS
FOR THE YEAR ENDED JUNE 30, 1992

TABLE II

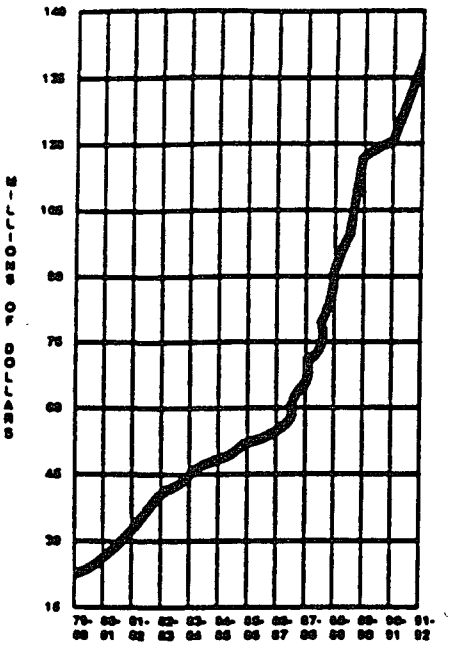
UNAUDITED

Population (Estimated June 30, 1992)	1,149,598
Sewage Flow RB / San Pasqual Municipal System (Million Gallons)	1,177.417
Sewage Flow Metropolitan System (Million Gallons)	64,144.650
Total Sewage Flow Municipal and Metropolitan System (Million Gallons)	65,322.067
Other Agencies' Sewage Flow (Million Gallons)	19,167.931
Total City Sewage Flow (Million Gallons)	46,154.136
Average Daily Municipal and Metropolitan Systems Sewage Flow (Million Gallons)	178.476
Average Daily City Sewage Flow (Million Gallons)	122.887
Average Daily City Sewage Flow per Capita (Gallons)	107.388
Maximum Daily Sewage Flow – Metropolitan System February 7, 1992 (Million Gallons)	244.150
Minimum Daily Sewage Flow – Metropolitan System August 11, 1991 (Million Gallons)	149.00
Sewer Service Laterals – June 30, 1992	248,000
Municipal Sewer System Mains in Service – June 30, 1992 (Miles)	2,416.8
Metropolitan Interceptor Sewer Mains in Service – June 30, 1992 (Miles)	25.40
Sludge Disposal Lines in Service – June 30, 1992 (Miles)	6.50
Ocean Outfall Line in Service – June 30, 1992 (Miles)	2.60
Total Sewer Mains and Lines in Service – June 30, 1992 (Miles)	2,451.1

Sewerage Utility

SALES STATISTICS AND PRINCIPAL RATES — TABLE III

REVENUES – SEWER SERVICE CHARGES



CLASS	YEAR ENDING JUNE 30 1992	1991	GROWTH AMOUNT	PERCENT
REVENUES - *(Thousand Dollars)*				
Single Family Domestic	$44,120	$40,724	$3,396	8.3%
Other Domestic	30,476	30,785	(309)	(1.0%)
Commercial	25,512	25,885	(373)	(1.4%)
Industrial	6,953	7,438	(485)	(3.8%)
Outside City	7	10	(3)	(3%)
Treat, Plant. Serv. for Others	28,881	15,541	13,340	(85.8%)
TOTAL	$135,949	$120,383	15,566	12.9%

PRINCIPAL RATES ***(As of June 30, 1992)***

1. For single family dwelling unit serviced by a separate water meter ..... $19.24 per month.

2. The monthly sewer service charge for all premises other than single family dwellings serviced by separate water meters shall be thirty-four cents ($0.34) per month, plus a charge per 100 cubic feet of water delivered, computed in accordance with the following table:

User Class	Average Suspended Solids Concentration (Parts per Million)	Rate Per HCF at 70-75% Return to Sewer*
A	0- 100	1.107
B	101- 200	1.241
C	201- 300	1.365
D	301- 400	1.488
E	401- 500	1.623
F	501- 600	1.747
G	601- 700	1.874
H	701- 800	1.999
I	801 - 900	2.131
J	901-1,000	2.254
K	1,001 +	**

*Charge for customers whose return to sewer deviates from 70-75% to be determined based on the following formula: Rate per HCF = Rate at 70-75% return/class midpoint (72.5% return) X midpoint of appropriate return class.

**Class K/V shall include all dischargers of wastewater whose discharge exceeds 1,000 parts per million of suspended solids. The rate per HCF will be individually computed for dischargers in Class K/V on the basis of $1.355 per HCF of flow, and $0.175 per 100 parts per million of suspended solids, at 100% return.

3. The City Manager has the power to establish reasonable sewer charges, other than those listed above:
   a. where sewage is substantially different in volume and type than the average.
   b. where water is received from another source than the city's source.
   c. where use is such that water supplied is not substantially or entirely discharged into the sewer system.
   d. for fire service connection.
   e. where not connected to the City's sewer system.
   f. where irrigation water is separately measured.

APPENDIX C

GENERAL ECONOMIC AND FINANCIAL INFORMATION ON THE CITY OF SAN DIEGO AND AREA

GENERAL ECONOMIC AND FINANCIAL INFORMATION ON THE CITY OF SAN DIEGO AND AREA

Introduction

With a total population of 1,171,600 as of January 1, 1993, the City is the sixth largest city in the nation and the second largest city in California. Since 1980, the City's population has increased by 296,062, or approximately 23,000 new residents annually. While the rate of growth has slowed in recent years, the City still grew by 21,000 persons in 1992.

A major factor contributing to San Diego's historically steady growth is the quality of life. In addition to one of the world's most favorable climates, the City offers a wide range of cultural and recreational services to serve both residents and visitors. With mild temperatures year round, the City's numerous beaches, parks, tennis courts, and golf courses are in constant use.

San Diego is also a center for education and research, with 15 colleges and universities, including the University of California at San Diego (UCSD), and San Diego State University. The City is also served by a number of community colleges offering academic courses and vocational training, with the vocational courses often customized to meet the special needs of area employers.

Another factor in the City's growth has been its steadily expanding economy. The City's economic base, which in the past was heavily reliant on federal defense spending, has undergone a transformation in recent years. In 1970 military employment was 26.8% of total employment, while in 1992 it was only 12% of the total. The result of this transformation is a new economic foundation based on four major areas: international trade, high tech manufacturing, professional services and a tourist industry with a strong convention trade component. Each of these areas has continued to register growth despite the current recession, and together they should provide the basis for the City's future economic growth although military and defense spending are expected to continue to be important components of the local economy.

San Diego's emergence as a center for international trade has been made possible in part by the Port of San Diego, which offers world class maritime facilities built around one of the world's great natural harbors. The Port of San Diego offers handling services at rates below those of other major west coast ports such as Los Angeles and San Francisco.

International trade activity is also facilitated by the City's immediate proximity to Mexico, a major U.S. trading partner, whose rapidly growing economy depends in part on U.S. manufactured products to support development of its new industrial base. Reflective of the San Diego-Mexico connection is the rapid growth of the City's industrial complex located on the Otay Mesa area adjacent to the border. Many of these facilities are twin plants, or "maquiladoras" with operations both in the U.S. and Mexico. Since 1986, 300 companies have moved into the area, generating 3,800 jobs. Because of San Diego's close ties with Mexico, it is anticipated that adoption of the proposed North American Free Trade Agreement (NAFTA) would have a positive impact on San Diego, in terms of increased trade with Mexico. San Diego also has significant trade with Canada, which would also increase under NAFTA.

A major component in San Diego's historical growing prominence as a center for "high tech" industry, has been the rapid growth of biotechnology based companies. According to a study released by the Ernst & Young accounting firm, San Diego has overtaken Los Angeles and Washington, D.C. to become the fourth largest concentration of biotech firms in the U.S., accounting for 8% of such firms in the nation. During the period July 1991 to June 1992, revenues by San Diego based biotech companies totaled $139 million. *See "Growth Companies"* herein.

San Diego's "high tech" industry is not limited to the biotechnology area, it encompasses a wide range of other areas, as exemplified by Qualcomm, Inc. a world leader in fiber optics technology, and Science Applications International Corporation, a diversified research company with 4,000 employees, involved in projects covering areas such as the environment and health care.

In the area of pure scientific research, San Diego will be the center for the $1.2 billion International Thermonuclear Experimental Reactor (ITER) project, an internationally funded program to develop plans for an advanced fusion reactor. The new facility will be located in the Torrey Pines Science Park. UCSD, under contract with the U.S. Dept. of Energy, will provide administrative oversight, and Science Applications, Inc., under a subcontract with UCSD, will provide the on-site operational support.

The professional services sector, including firms in the business services, health, engineering and management services areas, is expected to add 51,000 jobs to the San Diego economy during the period 1990 to 1997, according to projections prepared by the California Employment Development Department. The service sector has proven extremely resilient, continuing to add jobs in both 1991 and 1992, despite a downturn in total nonagricultural employment.

San Diego's long established tourism industry entered a new phase in 1989 with the opening of the San Diego Convention Center. With the opening of the Center, total convention revenues reached $547 million in 1992, a 60% increase from 1988. Plans are underway to double the capacity of the Center.

Underlying all components of the San Diego economy is a modern and well maintained transportation system, including a complex system of freeways and surface streets that make it possible to go from one end of the City to the other in less than 30 minutes. San Diego is served by the San Diego International Airport at Lindbergh Field, a major commercial airport that handled a record 5.9 million airport arrivals in 1992, up 4.9% from 1991. The airport also provides complete air freight services.

In addition to its system of freeways and surface streets, the City, in cooperation with the MTDB, has established a light trolley system that connects San Diego's downtown with outlying communities in the eastern and southern portions of the county. The trolley system has been steadily expanded, with plans to eventually provide a regional commuter rail service.

Municipal Government

The City of San Diego is a chartered city and operates under the Council-Manager form of government. The City Council is comprised of eight members elected by district to serve overlapping four-year terms. The Mayor, who presides over the City Council, is elected at large to serve a four-year term. The City Council, which acts as the City's legislative and policy-

making body, selects the City Manager, who is the City's chief administrator and is responsible for implementing the policies and programs adopted by the City Council.

Budgetary Process

The City's annual budget, which is published in November, is the culmination of the annual budget process which begins in the fall of the preceding year. Public input on service and program priorities is solicited in the fall. This input serves as part of the City Council's priority setting for the City Manager's development of the budget.

Based upon City Council budget priorities, departments submit operating and capital improvement project requests to the City Manager for review by the Financial Management Department. The City Manager evaluates and prioritizes the program requirements, determines funding availability and develops a balanced budget as required by the City Charter. This proposed balanced budget is published and presented to the City Council during April.

Council review of the proposed budget is conducted during May and June. The first two or three meetings are dedicated to public comment, while the balance of the meetings are conducted as Council workshops focusing on policy issues.

The City Council adopts the Annual Budget and Appropriation Ordinance no earlier than the date of the first Council meeting in July and no later than the last meeting in July. The adoption of the Appropriation Ordinance requires two noticed public hearings which are usually held on consecutive days. The Annual Tax Rate Ordinance is adopted no later than the last Council meeting in August.

The Financial Management Department works closely with the City Auditor and Comptroller to monitor fund balances. Variations from budget or plans are alleviated in a number of ways, including expenditure reductions or deferrals. Short term issues are resolved with short term solutions. Because the recent persistent recessionary environment has lasted longer than usual, the City has begun to implement longer term solutions such as using the City's revenue raising flexibility and making permanent reductions to programs.

CITY OF SAN DIEGO
OPERATING BUDGET SUMMARY FOR FISCAL YEAR 1993
General Government Funds[1]

REVENUE SOURCES:

Prior Year Fund Balances	$ 3,465,747
Property Taxes	139,825,473
Other Local Taxes	119,834,539
Licenses and Permits	18,456,541
Fines, Forfeitures and Penalties	15,249,016
Interest and Rents	55,719,737
Revenue from Other Agencies	46,408,301
Charges for Current Services	18,925,088
Transfers from Other Funds	71,384,956
Other Revenue	1,414,037
Total General Government Revenue	$490,710,435

EXPENDITURES:

Public Safety	$235,394,644
Park and Recreation	46,276,893
Sanitation and Health	28,600,878
Other Public Services	98,612,781
Support Services	75,388,543
Miscellaneous and Unallocated	6,436,696
Total General Government Expenditures	$490,710,435

(1) General government funds include the General Fund, Zoological Exhibits Fund, General Obligation Bond Interest and Redemption Funds and Tax Anticipation Note Fund.

Source: City of San Diego

The State's Fiscal Year 1993 Budget resulted in a reduction of $11.2 million in property tax revenue and $1.0 million in cigarette tax revenue for the City of San Diego. This was in addition to the $4.4 million loss in Fiscal Year 1992 of various revenues.

In adopting the Fiscal Year 1993 Budget, the City Council set aside a reserve of approximately $4 million, as a contingency, to offset unanticipated revenue losses. Throughout Fiscal Year 1993, the rate of growth for major revenue sources slowed. Fiscal Year 1993 revenue projections were based on an expected economic recovery in the first quarter of the calendar year. However, San Diego and California's recovery are lagging behind the rest of the nation. Instead of experiencing an economic recovery, growth in some of the larger revenue sources has been significantly less than projected. Revenue received from sources such as Property Tax, Motor Vehicle License Fees, and Interest Earnings trended below budgeted levels, while sales tax revenues trended consistent with budgeted levels.

During Fiscal Year 1993, in order to minimize the impact of services to the public, a number of temporary expenditure reductions and expenditure deferrals were implemented. In anticipation that economic conditions would improve, some onetime revenues were also utilized to avoid budget reductions.

The development of the Fiscal Year 1994 General Fund Budget, which totals approximately $479 million, incorporated permanent reductions, due to the persistent recessionary environment.

Labor Relations

Most City employees are represented by one of four labor organizations: The American Federation of State and County Municipal Employees (Local 127), which represents approximately 2,200 employees; The Municipal Employees Association ("MEA") and Unrepresented Employees, which total approximately 4,100 employees; The Police Officers Association ("POA"), which represents approximately 1,800 employees; and the International Association of Firefighters (Local 145), which represents approximately 900 employees. All four labor organizations have one year agreements that expire June 30, 1994. MEA and Local 127 are to receive a 1% salary increase on June 4, 1994, while POA will receive a 2% increase effective January 2, 1994 and Local 145 will receive a 1% salary increase effective June 4, 1994. Approximately 450 employees are unclassified and are not represented by bargaining units, these employees will receive a 1% salary increase effective June 4, 1994.

Retirement Plans

All City full-time employees participate with the full-time employees of the San Diego Unified Port District in the City Employees' Retirement System ("CERS"). CERS is an agent multiple-employer public employee retirement system that acts as a common investment and administrative agent for the City and said District. Through various benefit plans, CERS provides retirement benefits to all general and safety (police and fire) members.

The CERS plans are structured as defined benefit plans in which benefits are based on salary, length of service and age. City employees are required to contribute a percentage of their annual salary to CERS. State legislation requires the City to contribute to CERS at rates determined by actuarial valuations. The system's assets as of April 30, 1993 had a book value of approximately $1.1 billion and a market value of approximately $1.2 billion.

As of the City's last annual valuation dated March 13, 1993, the funding ratio of the CERS fund was 95.2%, up from the previous year's 94.6%.

Insurance, Claims and Litigation

The City is self-insured for its public liability claims exposure and its workers' compensation, long-term disability and employee group health coverage. Worker's compensation, long-term disability, and employee group health coverage are accounted for in the Self Insurance Fund, which is one of the Internal Service Funds. For workers' compensation, disability and health coverage, each participating fund contributes an amount equal to an actuarially determined rate multiplied by the gross salaries payable from that fund. The City also maintains within the Self Insurance Fund a reserve for public liability claims. The City maintains commercial property insurance on all City owned buildings of an insurable nature. The City currently carries property and extended loss insurance coverage of $150 million per occurrence on all City buildings, with earthquake insurance on all bond-funded buildings. The City is not required to maintain earthquake insurance with respect to the Property.

The City of San Diego is a public agency which is subject to liability for the negligent acts or omissions of its officers and employees acting within the scope of their duty. The City has a self-insured liability of $3.0 million. For liability between $3.0 to $25 million the City purchases

insurance in layers, for its public liability exposure. This exposure is governed per California Government Code Section 900, et seq. The City has incurred annual claims payments as follows:

FISCAL YEAR	AMOUNT
1992	$ 8,536,931
1993	7,302,613
1994 (Budget)	5,700,000

In addition, the City has a self-insurance reserve of $3.7 million as of June 30, 1993.

All penalties assessed against the City of San Diego in *U.S.A. v. City of San Diego,* Case No. 88-1101-B, have been satisfied as described *infra.*

The City has no pending litigation nor is it aware of any threatened litigation challenging its political existence or contesting its ability to issue revenue bonds or to levy and collect *ad valorem* taxes.

Healthcare Facilities and Education

The City has 19 hospitals including the Veterans Administration Hospital and the Naval Regional Medical Center. There are 154 public schools in the San Diego Unified School District, including 109 elementary schools and 45 middle, junior high, senior high, vocational or special schools, with a total enrollment of approximately 125,125 students and a certificated teaching staff of approximately 5,340. There are eleven public and four private colleges and universities in the City. The University of California at San Diego and San Diego State University are two major universities among 15 colleges and universities in the City. The City maintains 32 public libraries complemented by 32 cultural associations.

Research Facilities

Among the more important local research facilities are the Scripps Clinic and Research Foundation, the Naval Electronics Laboratory Center, the Palomar Observatory and the Salk Biological Research Institute headed by Dr. Jonas Salk.

San Diego has been selected to be the center for the $1.2 billion International Thermonuclear Experimental Reactor (ITER) project, an internationally funded program to develop plans for an advanced fusion reactor. The new facility will be located in the Torrey Pines Science Park. The University of California at San Diego will have administrative oversight and on-site operational support will be provided by Science Applications, Inc.. It is expected to serve as a spawning ground for spinoff technologies and businesses, similar to the role played by the Scripps and Salk Institutes, two organizations that provided the catalyst for the City's biomedical industry.

Transportation

San Diego has a well-developed and relatively uncongested highway system. Access in and out of the region is provided by five major freeways running north and south and three freeways running east and west.

Public transportation through the City and metropolitan surrounding communities is provided by MTDB. The San Diego Trolley, Inc. operates a fleet of electric trolleys that provides

transportation for commuters and tourists from downtown San Diego to San Ysidro (adjacent to Tijuana), and from downtown San Diego to Southeast San Diego and East County. In addition, the newest expansion of the trolley provides transportation service from downtown San Diego to the waterfront area, including the Convention Center. Construction has begun on an extension that will provide service from downtown to the historical Old Town section of the City. The Old Town extension, which will feature a 1871 vintage terminal located in the Old Town State Park, is scheduled for completion in January, 1996. Design work has been completed on the next extension, which will go from Old Town through the Mission Valley area, ending at San Diego Jack Murphy Stadium. Service is scheduled to begin on the Mission Valley extension in mid-1997.

A further extension of the trolley is under construction in the East County, which will link the City of Santee with the city of El Cajon and, via the existing East County line, to downtown San Diego.

Proposition A, voter approved in November, 1987 authorized a one-half cent increase to the local sales tax to fund transportation improvements for the San Diego region. The City of San Diego expects to receive $123 million over the next seven fiscal years, 1994-2000, from this source.

Propositions 108/111/116, voter approved in June, 1990, increased the State Gas Tax, and authorized the sale of rail bonds. The revenues generated from these measures are to be used to implement a comprehensive statewide transportation funding program through the year 2000. Increased revenues to the City of San Diego resulting from Proposition 111's increased gas tax subventions are estimated at $66.7 million over the ten year period, 1991-2000. Revenues from this source supplement the City's street maintenance program, and contribute to capital improvements.

Proposition 108, the Passenger Rail and Clean Air Act, authorized the sale of general obligation rail transit bonds. These rail bonds are to be used to fund up to 50% of the non-Federal cost of eligible projects throughout the State. Eligible transit projects under this program include all of the TransNet trolley and commuter rail corridors, with a possibility of $100 to $150 million available for trolley and commuter rail projects within the San Diego region. The designated recipients to develop rail infrastructure in the region are Metropolitan Transit Development Board (MTDB) and North County Transit District (NCTD).

A related ballot measure, Proposition 116, the Clean Air and Transportation Improvement Act, would generate revenue from the sale of $1.99 billion in general obligation rail bonds providing specific allocations to finance rail infrastructure, including intercity, commuter and light rail transit statewide. Similar to Proposition 108, MTDB and NCTD would be the designated recipients for the San Diego region; $45 million is estimated to be spent in San Diego County.

Industry Trends

Manufacturing

Despite recent downturns, due in large part to cutbacks in defense spending, manufacturing remains San Diego's largest economic sector. In 1991, total manufacturing output was estimated at $16.3 billion, accounting for approximately 28% of San Diego County's Gross Regional Product, and more than double 1980's output of $6.9 billion. During 1992, manufacturing employment fell by 10,700 jobs, with most of the losses occurring in the defense related aerospace and electronics

sectors. Employment in the nondurable goods category, including apparel, food processing and chemicals, actually grew by 900 jobs in 1992.

Through the first five months of 1993 manufacturing employment continued to fall, declining at a 5.9% annual rate, compared with a -4.4% rate during the same period in 1992. Although some sectors, such as the industrial machinery category, which includes computers, show signs of stabilizing, the overall outlook is for continued reductions in the electronics and aerospace sectors, partially offset by modest gains in other areas, particularly the nondurable goods category.

Construction

The construction sector, which fueled much of the City's economic expansion during the 1980's, has slowed in the 1990's, due to the continuing recession and a surplus of inventory, particularly in the commercial area. Reflecting this downturn in activity, construction employment was down in 1992 for the third consecutive year, falling 14.0 % from 1991 levels. Through May 1993 construction employment has trended upward, growing at an annual rate of 26.3%, compared with a 4.9% growth rate during the same period in 1992. The growth in employment in the first five months of 1993 appears to be inconsistent with the drop off in the issuance of building permits. This apparent anomaly may be attributed in part to growth in non-building construction areas, including street and highway construction, and decisions on the part of builders to move forward with projects for which permits had been obtained in 1992.

Lack of affordability has been a major obstacle to a resumption of building activity in San Diego; however, with home prices falling three consecutive years in a row, and prices nearing 1989 levels, affordability has improved considerably. Increased affordability combined with a nearly fixed supply of housing and continuing growth in population should provide the foundation for an eventual resumption in residential construction over the next several years.

Transportation, Communication & Utilities

The transportation, communications and utilities sector declined by 5.7% in 1992, after falling by 1.1% in 1991. A drop in air transportation employment accounted for most of the decline, although communications and utilities also reported job losses. Through May 1993, employment in this sector was declining at a 1.4% rate, compared with growth of 4.9% during the same period in 1992.

Retail and Wholesale Trade

Accounting for approximately 23% of total nonagricultural wage and salary employment, the trade sector, retail and wholesale trade, is a major component of the San Diego economy. Taxable retail sales in the City in 1991 totalled $9.3 billion, down 3.0% from 1990, the first year-to-year decline since 1982. Sales rebounded in 1992, with an increase of 3.8% over 1991 levels. According to U.S. Department of Commerce estimates, retail sales activity for the entire San Diego Metropolitan Statistical Area (i.e., San Diego County) has picked up in 1993, with total sales through the first 4 months, up by 7.4% from the same period in 1992.

Despite the improvement in sales figures, retail trade employment was down in 1992 for the second consecutive year, falling by 6%, after a 2.9% drop in 1991. Through the first five months of 1993, employment continued to decline, falling at a 2.7% annual rate, compared with a 1.8% growth rate during the same period in 1992.

Wholesale trade employment increased by 0.7% in 1992, after falling by 4.9% in 1991. Through May of 1993, wholesale trade employment is declining at a 3.4% annual rate, compared with a 4.0% growth rate during the previous year.

Finance, Insurance and Real Estate

Employment in the finance, insurance and real estate sector fell by 5.3% in 1992 following a 3.2% drop in 1991. A tentative real estate market and restructuring in the financial services sector have been major contributors to the decline. Through the first five months of 1993, employment in this sector is growing at a very modest 0.8%, compared with 3.2% growth in the same period in 1992.

Services

The services sector, which accounted for 30% of all nonagricultural wage and salary employment in 1992, grew by 2.0% in 1992 over the previous year. Hotels and lodging, business, engineering and management services were the strongest sectors for employment growth. Through May 1993, the service sector grew at an annual 6.1% rate compared with a 5.7% rate during the same period in 1992.

Government

The government sector, which accounted for 19% of total 1992 nonagricultural wage and salary employment, fell by a modest 0.2% between 1991 and 1992, only the second year-to-year decline since 1982. All of the decline was in the federal sector, as state and local government actually added workers. Through May 1993, government employment is growing at a 2.8% rate, compared with a 3.8% rate during the same period in 1992. During this period, federal employment has been declining at a 3.3% rate, while state and local payrolls have been growing at a 4.7% annual rate.

Tourism and international trade are sectors of the economy that cut across industry lines, and, as such, should be considered separately from the more specific industry classifications addressed in the preceding section.

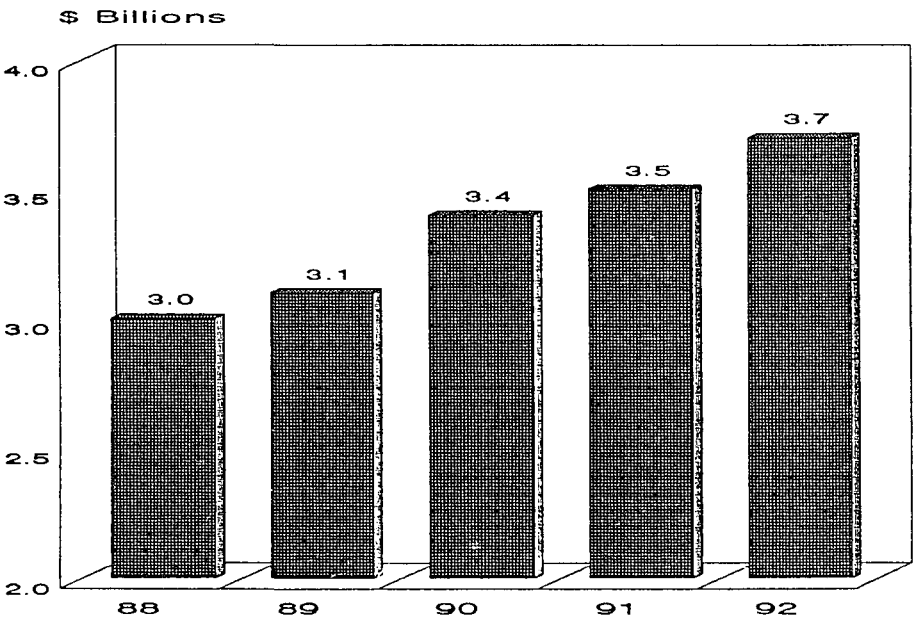
Tourism

The visitor industry is San Diego's third largest in terms of income generation, behind manufacturing and the military. During 1992, an estimated 119,200 workers, or 13% of the total nonagricultural wage and salary employees, were employed in San Diego's visitor industry, down slightly from 1991's figure of 120,800 and below 1990's high figure of 123,300.

Although visitor related employment was down in 1992, total visitor spending continued to climb during the year, reaching $3.7 billion in 1992, up by 4.6% from the previous year, as depicted in the following graph.

Total Visitor Spending

San Diego County 1988 - 1992



Source: San Diego Convention & Visitors Bureau

Total visitor spending almost doubled (up 85%) between 1984 and 1992. Contributing to this growth has been a sharp increase in convention activity. Spending by convention delegates totaled $547 million in 1992, as can be seen in the following table, up from $218 million in 1984.

CITY OF SAN DIEGO
CONVENTION INDUSTRY
1989 - 1992

Calendar Year	Estimated Spending	Number of Conventions	Total Delegate Attendance
1989	$ 353,493,000	1,769	672,897
1990	432,961,351	1,698	785,224
1991	478,848,919	1,548	792,382
1992	547,019,000	1,279	843,065

Source: San Diego Convention and Visitors Bureau.

San Diego's International Airport at Lindbergh Field had 5.9 million airport arrivals in 1992, a record number at the airport and a 4.9% increase over 1991.

The City of San Diego is the focal point for tourism in the region. Major attractions located in the City include the world-renowned San Diego Zoo which had nearly 3 million visitors in 1992, the San Diego Wild Animal Park with 1992 attendance of 1.5 million, and the Anheuser-Busch owned Sea World. While attendance figures for Sea World are no longer released, attendance was judged to be strong in 1992, with the opening of a major new exhibit *Shark Encounter*, which offers an innovative display of the world's largest collection of captive sharks. Other attractions include the Cabrillo National Monument on Point Loma, with 1.4 million visitors in 1992, Balboa Park, home to the Zoo and a host of other cultural and recreational activities, downtown's historic Gaslamp Quarter, and the Old Town State Park.

In addition to the many permanent attractions available to visitors, San Diego has also been host to a number of major sporting events. Most recently, the City hosted the 1992 America's Cup, which generated an estimated $300 million in revenues. The City will host the next America's Cup challenge in the spring of 1995. The City has also hosted a Super Bowl (Super Bowl XXII, held in January, 1988) and plans to submit a bid for Super Bowl XXXI, scheduled for January 26, 1997. The 1988 Super Bowl generated approximately $130 million in revenues. If the City's bid for Super Bowl XXXI is unsuccessful, the City will automatically advance as a finalist for the bid for Super Bowl XXXII.

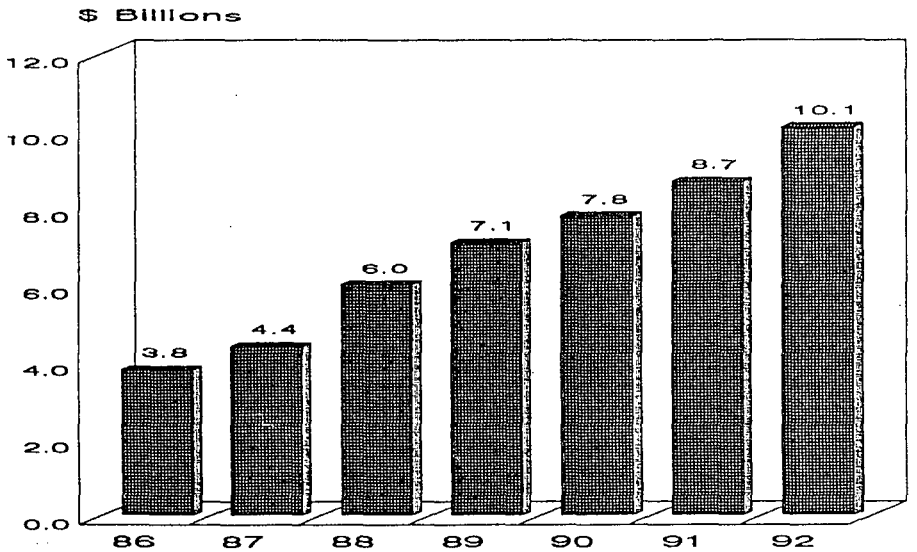
International Trade

San Diego has experienced substantial growth in international trade in recent years, despite sluggish performance in some other key sectors of the local economy. During 1992, the total dollar value of international trade passing through the San Diego customs district increased by 16.5% to more than $10.1 billion, with exports of $5.6 billion and imports of $4.5 billion. Between 1983 and 1992, the value of international trade grew at an annual rate of 19.0%, compared with an annual growth rate of 4.7% statewide. The following graph depicts total valuation of international trade for the San Diego region since 1986.

Valuation Of International Trade

San Diego Customs District

1986 - 1992



Source: U.S. Dept. of Commerce

While not all of the products exported through the San Diego customs district originate in San Diego, a substantial percentage can be attributed to local businesses. According to a Bureau of the Census survey, during 1991 approximately $3.5 billion in products produced in San Diego were exported to foreign markets. Manufactured products accounted for 96% of this total, with agricultural products and other commodities accounting for the remaining 4%. The major components of San Diego's manufacturing exports are electrical/electronic machinery, non-electrical machinery, scientific instruments, and transportation equipment.

Mexico accounts for 36% of the San Diego produced exports, followed by Canada at 10.9% and Japan at 8.2%. The other significant trading partners are divided between Asia and western Europe.

With its border location, a diversified manufacturing base, and one of the world's great natural harbors, San Diego is well positioned to take advantage of planned efforts to relax trade barriers between Mexico and the rapidly growing economies of Asia and Mexico.

Employment Summary

During the period 1988 to 1992, total nonagricultural wage and salary employment in San Diego County recorded a net increase of 28,400 new jobs, resulting in an annual rate of growth for the period of 0.8%. The services and government sectors accounted for most of the increase, with annual growth rates of 3.9% and 2.4% respectively during the period. Combined, these two sectors added 56,600 workers. Other business categories showing net growth included wholesale trade, up 3.9% from 1988, and nondurable manufacturing, up 17.5%. These increases were partially offset by reductions in retail trade, durable manufacturing, construction and the finance, insurance and real estate sector. Cutbacks in defense spending and the lingering national recession were the main factors behind the downturns.

During 1992, total nonagricultural wage and salary employment averaged 945,000, down 3% from the previous year. This represented the second consecutive year of decline, with a loss of 18,200 jobs. Through the first five months of 1993, wage and salary employment grew at an annual rate of 2.1%. During the same period in 1993, employment was growing at a rate of 2.8% before falling off during the second half of the year. The growth during the first 5 months of 1993 has been concentrated in the construction sector, with a 26.3% annual growth rate, and the services sector growing at a 6.1% growth rate. Both the government and finance, insurance and real estate sectors showed growth during the period, but at rates below the previous year. All other major categories reported declining employment.

The County's unemployment rate averaged 7.4% in 1992. The County's unemployment rate of 7.6% for May 1993 compared favorably to California's unemployment rate of 8.9%, but was above the nation's unemployment rate of 6.7% (seasonally unadjusted).

The following table shows wage and salary employment for the various industry groups in the San Diego County.

SAN DIEGO METROPOLITAN AREA
WAGE AND SALARY EMPLOYMENT(1)
CIVILIAN LABOR FORCE, EMPLOYMENT AND UNEMPLOYMENT
1988 - 1992
(in thousands)

	1988	1989	1990	1991	1992
Total All Industries(2)	928.7	975.9	1,003.2	984.7	953.8
Agricultural, Forestry & Fisheries	12.1	11.3	10.8	10.4	8.8
Nonagricultural Industries	916.6	964.6	992.5	974.3	945.0
Mining	.8	.8	.7	.6	.5
Construction	57.4	63.8	59.8	50.4	43.3
Manufacturing	130.1	135.4	137.8	134.7	124.0
Nondurable Goods	25.7	27.0	28.8	29.3	30.2
Durable Goods	104.5	108.4	109.0	105.4	93.8
Transportation, Public Utilities	35.1	35.8	37.2	36.8	34.7
Trade	223.0	233.6	238.6	230.8	219.7
Wholesale	41.0	42.8	44.5	42.3	42.6
Retail	181.9	190.8	194.1	188.5	177.1
Finance, Insurance, Real Estate	65.0	66.5	66.4	64.3	60.9
Services	242.5	259.5	274.7	277.3	282.8
Government	162.8	169.3	177.4	179.5	179.1
Federal	45.3	47.4	49.2	47.7	45.3
State and Local	117.6	121.9	128.2	131.8	133.8
Civilian Labor Force(3)	1,126.3	1,172.1	1,174.4	1,172.4	1,198.4
Employment	1,078.4	1,125.9	1,121.6	1,099.0	1,109.9
Unemployment	47.9	46.2	52.8	73.4	88.5
Unemployment Rate(4)	4.3%	3.9%	4.5%	6.3%	7.4%

(1) Employment reported by place of work. Does not include proprietors, unpaid volunteers or family workers, domestic workers in households, self-employed or persons involved in labor-management trade disputes.

(2) Figures may not add to the Industry Total due to independent rounding.

(3) Labor force data are by place of residence. Employment includes persons involved in labor-management trade disputes.

(4) The unemployment rate is computed from unrounded data, and it may differ from rates using the rounded figures in this table.

Source: State of California Employment Development Department.

Military Employment

The U.S. Department of Defense contributes about $10 billion annually to the local economy through wages paid to uniformed military and civilian personnel and through purchases of equipment and services from local businesses. The Presidential Base Closure Commission has recommended the closure of the Naval Training Center. The President has approved the Commission's recommendations for base closures throughout California; San Diego County could experience a net gain between 8,000 and 15,000 military and civilian jobs.

To expedite plans for the transformation from military to civilian use of the military bases in California selected for closure by the Base Closure Commission, the Governor of California established a Base Reuse Task Force, with San Diego Mayor Susan Golding to serve as Chairperson. The purpose of the Commission is to promote the rapid conversion of these installations to civilian uses that maximize job creation and long term economic growth. Within the City of San Diego, emphasis will be on rapid conversion of the Naval Training Center, which would appear to offer substantial potential given its proximity to San Diego Bay, Downtown San Diego and major commercial/population centers.

SAN DIEGO COUNTY
ACTIVE MILITARY PERSONNEL STATIONED IN COUNTY
1970 - 1992

Calendar Year	Number of Personnel[1]	Percentage of Total Employment
1970	141,700	26.80 %
1975	119,500	20.00
1980	118,300	15.40
1985	120,300	13.10
1986	130,600	13.57
1987	130,200	12.90
1988	130,600	12.14
1989	133,700	11.89
1990	134,000	12.50
1991	139,700	12.70
1992	133,700	12.00

(1) Rounded to the nearest hundred.

Source: City of San Diego Chamber of Commerce

Increased military presence in 1991 may be explained by the higher level of military activity due to the Persian Gulf War. Although personnel are temporarily relocated, counting takes place at the permanently assigned location. Reassignments to the San Diego area to cover for those shipped overseas could have brought about the increased count in the region.

Economic Indicators

Population

The City of San Diego is the sixth largest city in the United States and the second largest city in California.

CITY AND COUNTY OF SAN DIEGO
POPULATION
1960 - 1993

Calendar Year	City of San Diego[1]	Annual Avg. Change	County of San Diego[2]	Annual Avg. Change
1960	571,767	-	1,033,011	8.5%
1970	696,500	2.2%	1,357,854	3.1
1980	875,538	2.6	1,861,846	3.7
1985	970,062	2.2	2,102,500	2.6
1986	995,889	2.7	2,169,900	3.2
1987	1,019,444	2.4	2,248,500	3.6
1988	1,044,137	2.4	2,328,300	3.6
1989	1,073,186	2.8	2,418,200	3.9
1990	1,110,549	3.5	2,498,016	3.3
1991	1,128,500	1.6	2,546,800	2.0
1992	1,150,600	2.0	2,604,500	2.3
1993	1,171,600	1.8	2,648,600	1.7

(1) Source: City Planning Department's January 1 estimates which are based on the U.S. Census counts or official State Department of Finance estimates.

(2) Source: *U.S. Census 1960-1990;* State Department of Finance estimates for 1991, 1992, and 1993.

Assessed Valuation and Tax Collections

San Diego County assesses property and collects and distributes secured and unsecured property taxes to the cities, school districts and special districts within the county, including the City.

Taxes are levied for each fiscal year on taxable real and personal property which is situated in the City as of the preceding March 1. For assessment and collection purposes, property is classified either as "secured" or "unsecured" and is listed accordingly on separate parts of the assessment roll. The "secured roll" is that part of the assessment roll containing the taxes on which there is a lien on real property sufficient, in the opinion of the County Assessor, to secure payment of the taxes. Other property is assessed on the "unsecured roll."

Property taxes on the secured roll are due in two installments, on November 1 and February 1 of the fiscal year. If unpaid, such taxes become delinquent on December 10 and April 10, respectively, and a 10% penalty attaches to any delinquent payment. In addition, property on the secured roll with respect to which taxes are delinquent is sold to the State on or about June 30 of the fiscal year. Such property may thereafter be redeemed by payment of the delinquent taxes and the delinquent penalty, plus a redemption penalty of 1.5% per month to the time of redemption. If taxes are unpaid for a period of five years or more, the property is deeded to the State and then is subject to sale by the County Tax Collector.

Property taxes on the unsecured roll are due as of the March 1 lien date and become delinquent, if unpaid, on August 31 of the fiscal year. A 10% penalty attaches to delinquent taxes on property on the unsecured roll, and an additional penalty of 1.5% per month begins to accrue beginning November 1 of the fiscal year. The taxing authority has four ways of collecting unsecured personal property taxes: (a) a civil action against the taxpayer; (b) filing a certificate in the office of the County Clerk specifying certain facts in order to obtain a judgment lien on certain property of the taxpayer; (c) filing a certificate of delinquency for record in the County Recorder's office, in order to obtain a lien on certain property of the taxpayer; and (d) seizure and sale of personal property, improvements or possessory interest belonging or assessed to the assessee.

A supplemental assessment occurs upon a change of ownership of existing property and for new construction upon completion. A supplemental tax bill is issued for the difference in property value resulting from the increase in assessed value which is prorated for the remainder of the year.

Effective July 1, 1988, Assembly Bill 454, Chapter 921, eliminated the reporting of the unitary valuations pertaining to public utilities such as San Diego Gas and Electric and Pacific Telephone. In lieu of the property tax on these previously included assessed valuations, the City will receive from the State (through the County) an amount of unitary revenue based upon the unitary property tax received in the prior year. This has the effect of reducing assessed values in 1988-89 by approximately $2.0 billion county-wide and reducing the percentage annual change in net assessed valuation from approximately 11% to 5.34%. However, despite this change in assessed value, revenues are expected to be unaffected. The following table outlines a history of assessed valuation for the City since 1984.

CITY OF SAN DIEGO
ASSESSED VALUATION
1984 - 1994
(in thousands)[1][2]

Fiscal Year Ending June 30	Secured Property	Unsecured Property	Gross Total	Less Exemptions[3]	Net Assessed Valuations[4]	Annual Assessed Change
1984	26,105,549	1,424,427	27,529,976	742,762	26,787,214	8.43
1985	29,159,036	1,706,487	30,865,523	831,580	30,033,943	12.12
1986	32,934,625	1,893,513	34,828,138	1,020,750	33,807,388	12.56
1987	37,330,349	2,012,161	39,342,510	1,028,573	38,313,937	13.33
1988	41,256,462	2,510,496	43,766,958	1,197,058	42,569,900	11.11
1989	43,175,133	2,923,626	46,098,759	1,257,738	44,841,021[5]	5.34[5]
1980	48,203,351	3,345,666	51,549,017	1,492,849	50,056,168	11.63
1991	53,756,806	3,885,132	57,641,938	1,676,063	55,965,875	11.81
1992	57,563,431	3,946,532	61,509,963	1,792,948	59,717,015	6.70
1993	59,787,900	4,059,854	63,847,754	2,099,768	61,747,986	3.40
1994(est.)					62,655,681	1.47

(1) Assessed valuations are based on 100% of full market value.
(2) Includes both locally assessed and State assessed utility property.
(3) Excludes homeowners' and business inventory exemptions.
(4) Net assessed valuation for tax rate purposes. Includes both locally assessed and State assessed utility property.
(5) As mentioned above, effective July 1, 1988, Assembly Bill 454, Chapter 921, eliminated the reporting of the unitary valuation pertaining to public utilities, making these percentages not comparable in 1988-89. Without such change, growth in net assessed valuations would have been approximately 11%.

Source: *City of San Diego Comprehensive Annual Financial Report for the year ended June 30, 1992*, "Statistical Section" (unaudited), page 146 and 147. County Assessor's Office, 1993 and 1994.

There are a number of factors that have affected Fiscal Year 1993 property tax revenues. On September 2, 1992, the State of California adopted its Fiscal Year 1993 budget, which included a permanent 9% property tax shift from local governments to schools. This action reduced the City's Fiscal Year 1993 property tax revenues by $11.2 million. On July 1, 1993, the State of California adopted its Fiscal Year 1994 budget and again reallocated $12.4 million in property tax revenues to schools.

The County of San Diego defended 2,800 assessment appeal cases in Fiscal Year 1992 and an estimated 12,000 assessment appeal cases are projected in Fiscal Year 1993 and Fiscal Year 1994. The City's portion of the liability associated with the 12,000 appeal cases is estimated to be $3 million, in which the City has fully reserved this amount from Fiscal Year 1993 revenues.

The vast majority of these cases will be reviewed, and if necessary, reduced under the auspices of Proposition 8. Proposition 8 allows for a temporary reduction in property tax assessments, if the market value falls below the assessed value. This is a temporary reduction in value which is then reviewed annually, and can be increased to the original assessed value (plus 2% CPI increase as required by Proposition 8) as market conditions improve. Most properties in San Diego County have assessed values well below their current market values. Normally, only recently purchased properties that have subsequently declined in value are likely candidates for this temporary reduction.

The Fiscal Year 1993 assessed valuation increased by 3.93%, and the Fiscal Year 1994 assessed valuation is estimated to increase by approximately 1.5%.

Tax Collections

The table below summarizes the City's secured tax collections over the past ten years.

CITY OF SAN DIEGO
SECURED TAX LEVIES AND COLLECTIONS
1984 - 1993
(in thousands)

Fiscal Year Ending June 30	Tax Levy	Current Year Collections	Current Year Collections as Percentage of Current Tax Levy	Total Tax Collections	Total Collections as Percentage of Tax Levy
1984	55,647	52,272	93.94	55,009	98.85
1985	62,204	58,952	94.77	62,192	99.98
1986	70,088	66,448	94.81	69,421	99.05
1987	79,236	74,838	94.45	78,110	98.58
1988	92,545	87,032	94.04	91,268	98.62
1989	102,539	97,895	95.47	101,852	99.33
1990	115,361	109,990	95.34	113,377	98.28
1991	125,823	116,952	92.95	120,510	95.78
1992	127,143	121,308	95.41	125,153	98.43
1993(est.)	118,157	111,561	94.42	116,607	98.69

Source: *City of San Diego Comprehensive Annual Financial Report for the year ended June 30, 1992,* "Statistical Section" (unaudited), page 151. City Auditor and Comptroller, 1993.

The following tables indicate the ten largest property taxpayers in the City and the volume of taxable transactions, respectively.

CITY OF SAN DIEGO
LARGEST TAXPAYERS
June 30, 1992
(in thousands)

Taxpayers	Type of Business	Assessed Valuation	Percentage of Net Assessed Valuation[1]	Approximate Tax Paid
General Dynamics	Aerospace	$ 532,298	.88%	$ 5,595
Pardee Construction	Developer	207,349	.34	2,634
Equitable	Investment	223,348	.37	2,395
Sea World	Entertainment	201,789	.33	2,153
Pacific Landmark Hotel	Hotel	171,430	.28	1,829
Emerald-Shapery Center	Hotel/Office/Retail	142,020	.23	1,437
Aventine	Mixed Use	134,728	.22	1,425
Fashion Valley Venture	Shopping Center	123,624	.20	1,320
Plaza La Jolla Village	Shopping Center	123,433	.20	1,316
HSD Horton Association	Shopping Center	101,311	.17	1,110
		$1,961,330	3.24%	$ 21,214

(1) Total Net Assessed Valuation of $60,548,543,000.

Note: This table excludes public utilities, including San Diego Gas & Electric Company, Pacific Bell and American Telephone and Telegraph (AT&T), because valuations within the City of San Diego cannot be readily determined.

Source: County of San Diego Assessor's Office.

CITY OF SAN DIEGO
TAXABLE TRANSACTIONS
(in thousands)

	1988	1989	1990	1991	1992
Apparel Stores	$324,339	$371,852	$390,697	$404,876	$421,282
General Merchandise	928,186	1,003,319	1,018,429	985,516	1,024,472
Drug stores	130,015	141,155	147,324	164,043	181,573
Food stores	447,067	496,657	524,958	573,909	617,011
Package liquor	71,207	72,384	73,694	76,428	76,271
Eating and drinking establishments	954,130	1,022,509	1,075,433	1,094,517	1,110,814
Home furnishings and appliances	330,174	341,548	361,754	333,165	329,786
Building materials and farm implements	369,261	405,645	430,212	412,508	426,600
Auto dealers and supplies	968,231	982,230	927,867	799,912	839,980
Service stations	474,205	548,352	580,382	555,140	608,878
Other retail stores	1,055,836	1,115,994	1,169,448	1,178,844	1,193,881
TOTAL RETAIL OUTLETS	$6,052,651	$6,501,645	$6,700,198	$6,578,858	6,830,548
All other outlets	2,695,823	2,985,340	2,891,117	2,721,353	2,823,557
TOTAL ALL OUTLETS	$8,748,474	$9,459,985	$9,591,315	$9,300,211	9,654,105

Source: California State Board of Equalization.

Commercial Activity

In downtown San Diego, significant commercial development has occurred over the last several years as a result of the City's redevelopment efforts. Seaport Village, a 13-acre specialty retail development which opened in 1980, contains 99,000 square feet of specialty retail. The total current assessed valuation is $13 million. Planning and design are currently underway for an expansion of Seaport Village to include an additional 150,000 square feet of retail and related parking. Development value is estimated at $50 million. Horton Plaza, a major mixed use-retail, entertainment and parking complex, opened in August 1985. Four major department stores and approximately 150 specialty shops occupy the 900,000 square foot mixed-use center. The current assessed value is $126 million. The recently completed Paladion is a three-story, plus roof terrace, high-end retail complex containing approximately 105,000 square feet of retail and restaurant use.

Several large office developments containing a total of approximately 1,750,000 square feet have been recently completed. The Emerald-Shapery Center, completed in April 1991, with current assessed valuation of $101 million contains a 375,000 square foot office building, a 475-room hotel with health club, retail space and restaurants. One America Plaza consists of a hotel, an office development, and an integrated major light-rail transit station for the trolley. The 660,000 square foot office tower with the station was completed in December 1991. Current assessed valuation is $112 million.

Approximately 2,900 housing units have been constructed including senior citizen housing, market rate condominiums, market rate rental units, luxury condominiums and low and moderate income housing. Construction is underway on 321 condominium units and plans for approximately

1,400 additional residential units are in various stages of design and development. The Meridian, a 27-story luxury residential tower containing 172 condominium units, completed in July 1985 currently has an assessed value of $103 million.

Hotel development consisting of approximately 3,200 hotel rooms has been completed, including the San Diego Marriott Hotel and Marina, Embassy Suites Hotel and the Pan Pacific Hotel of the Emerald-Shapery Center. The Hyatt Regency Hotel, containing approximately 875 rooms located southeast of Seaport Village, opened in December 1992, with an assessed valuation estimated to be $50.7 million.

The San Diego Convention Center, with 254,000 square feet of prime exhibit space, costing approximately $160 million, was completed in November 1988. Convention Center management has commissioned two studies to assess the viability and funding options of expanding the current Center to 500,000 square feet of prime exhibit space. In addition, preliminary planning and site analysis has begun on a proposed downtown sports arena.

Of course, any new development is subject to general and local economic conditions as well as availability of funding sources.

Construction

The following table presents the valuation of building permits issued in the City from 1989 through 1993.

CITY OF SAN DIEGO
BUILDING PERMIT VALUATIONS
AND NUMBER OF DWELLING UNITS
Fiscal Years Ended June 30

	1989	1990	1991	1992	1993
Valuation (in thousands):					
Residential	$1,104,638	$1,092,547	$ 516,072	$ 380,666	$ 235,511
Nonresidential	851,591	738,998	421,476	340,000	350,921
Total	$1,956,229	$1,831,545	$ 937,548	$ 720,666	$ 586,432
New Dwelling Units:					
Single Family	$ 3,739	$ 3,072	$ 1,413	$ 1,018	$ 1,018
Multiple Family	6,156	6,318	2,609	1,914	1,881
Total	$ 9,895	$ 9,390	$ 4,022	$ 2,932	$ 2,899

Source: City of San Diego, Department of Building Inspection.

The City's major employers are shown in the following table, which excludes governmental sources of employment.

CITY OF SAN DIEGO
MAJOR EMPLOYERS
As of August 1992

Company	Product/Service
10,000 or More Employees:	
San Diego Unified School District	Education
Sharp Health Care	Health Service
University of California, San Diego	Higher Education
5,000-9,999 Employees:	
General Dynamics	Aerospace/Defense Electronics
Pacific Bell	Utility
San Diego Community College District	Higher Education
Scripps Institute of Medicine & Science	Health Services
3,000-4,999 Employees:	
Cubic Corporation	Electronics, Elevators
General Dynamics, Electronic Div, the Carlyle Group	Aerospace/Defense Electronics
Hughes Aircraft Co.	Aerospace
Kaiser Medical Foundation	Health Care
National Steel & Shipbuilding Co.	Shipbuilding, Repair
San Diego Gas & Electric	Utility
San Diego State University	Higher Education
Scripps Clinic & Research Foundation	Health Services
Science Applications International Corp.	Research and Development
Sea World of California	Entertainment
Solar Turbines, Inc.	Gas Turbine Manufacturing
The Price Company.	Wholesale
2,000 - 2,999 Employees:	
Atlas Hotels, Inc.	Hotel
Bank of America NT & SA	Banking
Foodmaker, Inc.	Food Services
Lucky Stores	Food Services
Mercy Health Care San Diego	Health Care
Nordstrom	Retail
Scripps Memorial Hospital	Health Care
USAIR	Airline
Wells Fargo Bank	Banking

Source: City of San Diego Chamber of Commerce.

Business Development Program

The City recognizes the need to improve the local business climate and to aggressively support economic development and job creation activities. To achieve this, the City has established a comprehensive Business Development Program. A key element of this program is the Business Expansion and Retention Program which represents a new pro-active effort on the part of the City to work directly with businesses to improve the retention rate among local firms and to expand the level of investment and job growth.

A primary focus of the City's overall business development effort is to streamline the current permitting process and, when feasible, to eliminate or reduce existing fees and permits. To facilitate this process within the City, an Economic Development Cabinet (EDC), composed of those City departments directly involved in the permitting process: Engineering and Development, Building Inspection, Planning, and Neighborhood Code Compliance was established. The specific objective of the EDC is to establish a "one-stop" permitting process that will reduce the development permit processing time by as much as one-half.

A pilot fast track program was initiated in November, 1991 focusing on the biomedical industry. The effort was subsequently expanded to include other businesses moving to the area and existing firms in the process of expanding. The first "from scratch" project testing the system involved Costco, a major warehouse retailer, which built a major outlet in the Kearny Mesa area. The "fast track" system was able to significantly reduce the time necessary to complete the Costco permitting process.

In May 1993, the City Council approved a moratorium on the adoption of new fees. The Council is also considering a wide range of changes to the current fee and permitting process, which, if enacted, will result in significant savings to local businesses in terms of both time and money.

Growth Companies

Many business in the City of San Diego offer new products in high technology areas ranging from computer graphics and genetic engineering. The following is a list of some of these companies:

Company	Profile/Comments
Qualcomm, Inc.	Industry leader in fiber optics technology. Recently moved headquarters to San Diego Design Center Building.
Brooktree Corp.	Computer graphics technology firm started 10 years ago with 4 employees and currently supports an annual payroll of $24 million.
Hitachi Home Electronics	The firm relocated its new manufacturing division headquarters from Anaheim, California to San Diego's Otay Mesa industrial area. The Otay facility will provide warehousing, laboratory and other support services to its assembly plant in nearby Tijuana, Mexico.
Science Applications, Inc.	An international scientific research firm, headquartered in San Diego, with a local payroll of approximately 4,000 employees. Annual sales of $1.5 billion.
Hybritech Inc.	Manufacturer of invitro diagnostics. Local workforce of 1,000 employees.

The following companies all constructed new facilities within the last year:

Calbiochem	Pharmaceutical manufacturer
Telios	Pharmaceutical manufacturer
Idec	Pharmaceutical manufacturer
Scripps Cancer Research Center	Cancer research firm

City Financial Information

City Debt Structure

Long-Term Obligations. As of June 30, 1992, the City had $27,215,000 aggregate principal amount of long-term general obligation bonded indebtedness outstanding. The City has never defaulted on bonded indebtedness for which it was the real obligor or on lease payment obligations incurred. The City has recently hired a financial advisor to review the City's outstanding debt and to provide a comprehensive refinancing feasibility study. It is anticipated that viable refundings will be completed in calendar year 1993. The following table is a schedule, by years, of payments required by the City with respect to future obligations, as of June 30, 1992.

CITY OF SAN DIEGO
FUTURE OBLIGATIONS
(in thousands)

Fiscal Year Ending June 30	General Obligation Bonds	Special Assessment Bonds	Tax Allocation Bonds	Contracts Payable	Notes Payable	Capital Lease Obligations
1993	$ 22,796	$ 11,544	$ 5,882	$1,193	$ 193	$ 39
1994	23,500	12,100	5,873	3,400	203	15
1995	22,857	12,057	5,867	2,550	214	14
1996	22,883	12,074	5,862	355	6,910	18
1997	23,109	12,033	5,985	263	4,524	0
1998-2002	114,622	57,520	27,550	1,262	844	0
2003-2007	98,257	55,234	25,218	62	635	0
Thereafter	34,864	77,062	9,987	88	57,099	0
Sub-Total	$362,888	$249,624	$92,224	$9,173	$70,622	$ 86
Less amounts representing interest	(148,373)	(128,754)	(42,009)	(1,913)	(3,456)	(9)
Total	$ 214,515	$120,870	$ 50,215	$ 7,260	$ 67,166	$ 77

Source: *City of San Diego Comprehensive Annual Financial Report for year ending June 30, 1992*, pages 18-27.

Prior-Years' Defeasance of Debt. In prior years, the City, the Redevelopment Agency of the City of San Diego and the Open Space Park defeased certain general obligation and other bonds by placing the proceeds of new bonds in an irrevocable trust to provide for all future debt service payments on the old bonds. Accordingly, the trust account assets and the liability for the defeased bonds are not included in the City's financial statements. At June 30, 1992, $79,495,000 of such defeased bonds are still outstanding.

Short-Term Borrowings. The City has issued tax anticipation notes since fiscal year 1967-68 (except for fiscal year 1978-79) to cure periodic General Fund cash flow deficits. The following table presents the past 10 year history of the City's temporary borrowings:

CITY OF SAN DIEGO
TEMPORARY BORROWINGS
1983 - 1994
(in thousands)

Fiscal Year Ending June 30	Amount
1983	$29,000
1984	34,000
1985	30,000
1986	36,000
1987	50,000
1988	5,000
1989	28,000
1990	40,000
1991	49,000
1992	57,000
1993	102,000
1994 Issue A	100,500

Source: City of San Diego.

The following table is a schedule by years of future minimum rental payments required under operating leases entered into by the City that have initial or remaining noncancelable lease terms in excess of one year, as of June 30, 1992:

CITY OF SAN DIEGO
FUTURE MINIMUM RENTAL PAYMENTS
(in thousands)

Fiscal Year Ending June 30	Amount
1993	6,674
1994	3,858
1995	3,216
1996	2,720
1997	2,261
Thereafter	13,978
Total minimum payments	$ 32,707

Note: Rent expense as related to operating leases was approximately $9,321,000 for the year ended June 30, 1992.

Source: *City of San Diego, Comprehensive Annual Financial Report for year ending June 30, 1992, pages 18-31.*

Overlapping Debt and Debt Ratios

The City contains numerous school districts and special purpose districts, such as for water and sanitation, many of which have issued general obligation bonds. A statement of overlapping debt is presented below. Some of the issues may be payable from self-supporting enterprises or revenue sources other than property taxation. Revenue bonds, tax allocation bonds, and special assessment bonds are not included in the tabulation; lease revenue obligations payable from the City General Fund or equivalent sources are included.

CITY OF SAN DIEGO
STATEMENT OF DIRECT AND OVERLAPPING BONDED DEBT
June 30, 1992
(in thousands)

Jurisdiction	Debt Outstanding June 30, 1992	Percentage Applicable to City of San Diego	Amount Applicable to City of San Diego
City of San Diego	$ 27,215	100.000 %	$ 27,215 (1)
City of San Diego Certificates of Participation	49,450	100.000	49,450
City of San Diego 1915 Act Bonds	120,870	100.000	120,870
City of San Diego Redevelopment Agency	50,215	100.000	50,215
City of San Diego Stadium and Planetarium Authorities	20,460	100.000	20,460
City of San Diego Light Rail Transit Authority	29,445	100.000	29,445
Grossmont Hospital Authority	7,530	8.341	628
Metropolitan Water District	682,535	7.975	54,432
Northern San Diego Hospital District	2,310	33.198	767
Poway Unified School District	14,260	77.683	11,078
San Diego Community College District	18,340	99.892	18,320
San Diego County Building Authorities	165,040	45.412	74,948
San Diego County General Fund Obligations	333,568	47.924	159,859
San Diego County Water Authority	462,493	49.703	229,873
San Diego Open Space Park Facilities District #1	67,935	100.000	67,935
San Diego Unified Port District	4,380	87.533	3,834
San Diego Unified School District	215,510	99.897	215,288
Other School and Community College Districts	28,221	various	645
Other Special Districts	8,497	various	453
TOTAL GROSS DIRECT AND OVERLAPPING BONDED DEBT			$1,135,715 (2)

Less:

Bonds Paid by Water Revenue:	
Helix, Otay Mesa and Pomerado Water Districts	453
Metropolitan Water District	54,432
San Diego County Water Authority	229,873
City of San Diego Stadium and Planetarium Authorities (100% self-supporting)	20,460
San Diego Open Space Park Facilities District #1	67,935
San Diego Unified Port District (100% self-supporting)	3,834
TOTAL GROSS DIRECT AND OVERLAPPING BONDED DEBT	376,987
NET DIRECT AND OVERLAPPING BONDED DEBT	$ 758,728

1990-91 Assessed Valuation (100% Of Full Value):

$57,690,989 (including the redevelopment tax allocation increment of $1,725,114)

Ratios to Assessed Valuation

City of San Diego Gross Direct Debt ($148,610)	0.24%
City of San Diego Net Direct Debt ($125,780)	0.21%
City of San Diego and Open Space District Gross Direct Debt ($215,545)	0.35%
City of San Diego and Open Space District Net Direct Debt ($125,780)	0.21%
TOTAL GROSS DEBT	1.84%
TOTAL NET DEBT	1.23%

(1) Excludes $17,296 revenue bonds.
(2) Excludes revenue and tax allocation bonds.

Source: City of San Diego, Comprehensive Annual Financial Report for year ending June 30, 1992.

Accounting Practices

The City's accounting policies conform to generally accepted accounting principles applicable to governmental units. The City's Governmental Funds and Expendable Trust and Agency Funds use the modified accrual basis of accounting. Under the modified accrual basis of accounting, revenues are recorded when both available and measurable. Certain fines and forfeitures, however, are recorded when received as they are not susceptible to accrual. Expenditures are recognized when the related liability is incurred except for (1) principal of and interest on general long-term debt which are recognized when due; and (2) employee annual leave and claims and judgments for litigation and self-insurance which are recorded in the period due and payable. Proprietary Fund, Pension Trust and Nonexpendable Trust Funds use the accrual basis of accounting. Under the accrual basis of accounting, revenues are recognized when earned, and expenses are recorded when incurred.

The City prepares financial statements annually in conformity with generally accepted accounting principles for governmental entities which are audited by an independent certified public accountant. The annual audit report is generally available about six months after the June 30 close of each fiscal year. The City's most recent general purpose financial statements for the fiscal year ended June 30, 1992 were audited by Deloitte & Touche.

Summary Financial Statements

The following summary financial statements combine the general fund and other general obligation bond funds from the City's annual financial report. These totals are presented to aggregate financial data only and do not conform with generally accepted accounting principles.

CITY OF SAN DIEGO
COMBINED BALANCE SHEET FOR THE GENERAL FUND AND OTHER GENERAL OBLIGATION BONDS FUND
June 30, 1988 through 1992
(in thousands)

	1988	1989	1990	1991	1992
ASSETS:					
Cash in Treasury or in Pooled Cash Equivalents	$60,540	$45,709	$ 57,826	$38,677	$22,359
Cash with Fiscal Agent	341	837	281	98	78
Accounts Receivable--Net	1,886	1,100	4,495	5,402	7,393
Claims Receivable--Net	432	393	246	259	225
Accrued Interest	1,063	1,611	2,492	2,666	1,934
Receivables from Other Agencies--Net	70	70	70	70	70
Taxes Receivable--Net	8,110	9,721	10,037	1,835	18,856
Loan to Redevelopment Agency--Receivable 223	239	0	0	0	
From Other Funds--Receivable	0	0	0	134	43
Advances to Other Funds	23,701	24,917	25,017	26,417	24,427
Advances to Other Agencies	350	350	350	350	350
Prepaid Reimbursable Items and Deposits	231	272	290	331	301
Total Assets	$96,947	$85,219	$101,104	$86,239	$76,036
LIABILITIES:					
Obligations Under Reverse Repurchase Agreements	$24,065	$15,791	$21,047	$10,810	$ 914
Accrued Wages & Benefits	8,130	9,530	11,030	12,947	15,710
Accounts Payable	1,748	2,713	2,476	3,319	2,493
Deferred Revenue	10,732	9,218	9,652	11,396	19,674
Matured Bonds and Interest Payable	341	837	281	98	78
Total Liabilities	$45,016	$38,089	$44,486	$38,570	$38,869
FUND BALANCE:					
Reserves:					
For Encumbrances	$ 9,328	$ 9,692	$ 10,991	$10,559	$ 6,101
For Other Advances and Deposits	24,131	25,346	25,447	26,847	24,777
For Debt Service	262	197	274	102	350
Unreserved:					
Designated for Subsequent Years of Expenditure	3,217	2,921	4,683	4,453	3,422
Undesignated	14,993	8,974	15,223	5,708	2,517
Total Fund Equity	51,931[1]	47,130	56,618	47,669	37,167
Total Liabilities and Fund Balance	$96,947	$85,219	$101,104	$86,239	$76,036

(1) Restated for the correction of errors of prior periods.

CITY OF SAN DIEGO
COMBINED STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE FOR THE GENERAL FUND AND OTHER GENERAL OBLIGATION BONDS FUND
Years Ended June 30, 1988 through 1992
(in thousands)

	Fiscal 1987-88	Fiscal 1988-89	Fiscal 1989-90	Fiscal 1990-91	Fiscal 1991-92
REVENUES:(1)					
Property Taxes and Special Assessments					
Current Year Secured	$ 81,275	$ 89,081	$ 98,042	$113,059	$115,399
Other Prop. Taxes and Special Assessments	16,956	20,838	22,173	16,517	19,695
Other Local Taxes	111,521	124,936	135,665	130,941	135,215
Licenses and Permits	7,273	7,384	8,677	16,556	19,054
Fines, Forfeitures and Penalties	11,905	12,167	12,829	17,595	13,993
Revenues from Use of Money and Property	26,693	26,953	29,796	30,208	26,842
Revenues from Other Agencies	36,461	40,750	45,871	43,263	41,387
Charges for Current Services	35,568	35,000	39,760	45,028	53,625
Other Revenue	1,337	1,759	1,888	2,354	2,548
Total Revenues	$328,989	$358,868	$394,701	$415,521	$427,758
EXPENDITURES:					
General Government	$49,876	$59,108	$62,325	$71,387	$72,510
Public Safety	171,635	183,834	197,822	216,915	230,213
Libraries	11,231	12,250	12,202	13,848	15,278
Park, Recreation and Culture	31,477	35,605	36,861	40,218	41,415
General Services	46,617	48,582	51,338	55,416	57,825
Engineering and Development	11,851	13,096	14,972	17,859	22,188
Debt Service	2,820	2,772	2,732	2,696	2,060
Miscellaneous and Unallocated	6,463	9,372	11,473	15,871	10,561
Total Expenditures	$331,970	$364,619	$389,725	$434,210	$452,050
EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	(2,981)	(5,751)	4,976	(18,689)	(24,292)
OTHER FINANCING SOURCES (USES):					
Transfers from Other Funds	10,674	7,548	9,229	17,694	18,065
Transfers to Other Funds	(6,742)	(6,598)	(4,717)	(7,954)	(4,275)
TOTAL OTHER FINANCING SOURCES (USES)	$3,932	$950	$4,512	$9,740	$13,790
EXCESS (DEFICIENCY) OF REVENUES AND OTHER FINANCING SOURCES OVER EXPENDITURES AND OTHER FINANCING USES	951	(4,801)	9,488	(8,949)	(10,502)
FUND BALANCE AT JULY 1	50,076 (2)	51,931	47,130	56,618	47,669
Residual Equity Transfers from Other Funds	904	---	---	---	---
FUND BALANCE AT JUNE 30	$ 51,931	$ 47,130	$ 56,618	$ 47,669	$37,167

(1) Includes collections for homeowners and business inventory exemptions and prior year's property tax collections.

(2) Restated for the correction of errors of prior periods.

APPENDIX D

DEFINITIONS OF CERTAIN TERMS

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DEFINITIONS OF CERTAIN TERMS

The following is a summary of certain definitions set forth in the Indenture and in the Installment Purchase Agreement. These summaries do not purport to be comprehensive and reference should be made to such documents for a full and complete statement of such definitions. All capitalized terms not defined in this summary or this Official Statement shall have the meanings set forth in the Indenture and in the Installment Purchase Agreement.

"**Accountant's Report**" means a report signed by an Independent Certified Public Accountant.

"**Acquisition Costs**" means all costs of acquiring, constructing, installing or improving the Project, including but not limited to: (i) all costs which the Authority or the City shall be required to pay to a manufacturer, vendor or contractor or any other person under the terms of any contract or contracts for the acquisition, construction, installation or improvement of the Project; (ii) obligations of the Authority or the City incurred for labor and materials (including obligations payable to the Authority or the City for actual out-of-pocket expenses of the Authority or the City) in connection with the acquisition, construction, installation or improvement of the Project, including reimbursement to the Authority or the City for all advances and payments made in connection with the Project prior to or after delivery of the Bonds; (iii) the costs of performance or other bonds and any and all types of insurance that may be necessary or appropriate to have in effect during the course of acquisition, construction, installation or improvement of the Project; (iv) all costs of engineering and architectural services, including the actual out-of-pocket costs of the Authority or the City for test borings, surveys, estimates, plans and specifications and preliminary investigations therefor, development fees and sales commissions, and for supervising acquisition, construction, installation and improvement, as well as for the performance of all other duties required by or consequent to the proper acquisition, construction, installation or improvement of the Project; and (v) any sums required to reimburse the Authority or the City for advances made by the Authority or the City for any of the above items or for any other costs incurred and for work done by the Authority or the City which are properly chargeable to the acquisition, construction, installation or improvement of the Project.

"**Additional Bonds**" means all revenue bonds of the Authority which are secured by Installment Payments authorized by and at any time Outstanding pursuant to the Indenture and executed, issued and delivered in accordance with the Indenture.

"**AMBAC Indemnity**" means AMBAC Indemnity Corporation, a Wisconsin-domiciled stock insurance company.

"**Annual Debt Service**" means, for any Fiscal Year, the sum of (i) the interest payable on all Outstanding Bonds in such Fiscal Year, assuming that all Outstanding Serial Bonds are retired as scheduled and that all Outstanding Term Bonds are redeemed or paid from sinking fund payments as scheduled (except to the extent that such interest is to be paid from the proceeds of the sale of any Bonds); (ii) the principal amount of all Outstanding Serial Bonds maturing by their terms in such Fiscal Year; and (iii) the principal amount of all Outstanding Term Bonds required to be redeemed or paid in such Fiscal Year (together with the redemption premiums, if any, thereon).

"**Auditor and Comptroller**" means the Auditor and Comptroller of the City.

"Authority" means the Public Facilities Financing Authority of the City of San Diego, a joint power authority duly organized and existing under and by virtue of laws of the State.

"Authorized City Representative" means the Mayor, the City Manager or the Treasurer of the City or such other officer or employee of the City or other person who has been designated as such representative by resolution of the City Council of the City.

"Authorized Denominations" means $5,000 and any integral multiple thereof.

"Authorizing Ordinance" means the ordinance pursuant to which the Installment Purchase Agreement was authorized and any additional Ordinance or official authorizing act of the Council of the City approving execution and delivery of any Supplement to the Installment Purchase Agreement or any Issuing Instrument.

"Balloon Indebtedness" means, with respect to any Series of Obligations, twenty-five percent (25%) or more of the principal of which matures on the same date or within a 12-month period (with sinking fund payments on Term Obligations deemed to be payments of matured principal), that portion of such Series of Obligations which matures on such date or within such date or within such 12-month period; provided, however, that to constitute Balloon Indebtedness the amount of indebtedness maturing on a single date or over a 12-month period must equal or exceed 150% of the amount of such Series of Obligations which matures during any preceding 12-month period. For purposes of this definition, the principal amount maturing on any date shall be reduced by the amount of such indebtedness which is required, by the documents governing such indebtedness, to be amortized by prepayment or redemption prior to its stated maturity date.

"Board" means the Board of Directors of the Authority.

"Bond Counsel" means a firm of attorneys which are nationally recognized as experts in the area of municipal finance.

"Bonds" means the 1993 Bonds and all Additional Bonds.

"Business Day" means a day of the year which is not a Saturday or Sunday, or a day on which banking institutions located in California are required or authorized to remain closed, or on which the New York Stock Exchange is closed. If the date for making any payment or the last date for performance of any act or the exercising of any right, as provided in the Indenture, shall not be a Business Day, such payment may be made or act performed or right exercised on the next succeeding Business Day, with the same force and effect as if done on the nominal date provided in the Indenture, and, unless otherwise specifically provided in the Indenture, no interest shall accrue for the period after such nominal date.

"Certificate of Completion" means a Certificate of the City filed with the Trustee, stating that the Components of the Project being financed with the proceeds of the Bonds have been acquired, constructed, installed and improved and that all Acquisition Costs have been paid or provided for.

"Certificate of the City" means an instrument in writing signed by the City Manager, Financial Management Director or City Attorney of the City, or by any other officials of the City duly authorized by the City for that purpose.

"Charter" means the Charter of the City as it now exists or may be amended, and any new or successor Charter.

"City" means the City of San Diego, a municipal corporation duly organized and existing under its Charter and the Constitution of the State.

"Code" means the Internal Revenue Code of 1986, as amended, and the regulations thereunder, and any successor laws or regulations.

"Components" means components of the Project specified in a Supplement.

"Consultant" means the consultant, consulting firm, engineer, architect, engineering firm, architectural firm, accountant or accounting firm retained by the City to perform acts or carry out the duties provided for such consultant in the Installment Purchase Agreement. Such consultant, consulting firm, engineer, architect, engineering or architectural firm shall be nationally recognized within its profession for work of the character required. Such accountants or accounting firm shall be an Independent Certified Public Accountant licensed to practice in the State.

"Contracts" means any contract or lease of the City (including the Installment Purchase Agreement) authorized and executed by the City, the installment or lease payments of which are payable from the Net System Revenues and which are on a parity with the Installment Payments.

"Corporate Trust Office of the Trustee" means the principal corporate trust office of the Trustee in Los Angeles, California or such other or additional offices as may be specified to the Authority by the Trustee in writing.

"Costs of Issuance" means all items of expense directly or indirectly payable by or reimbursable to the City or the Authority relating to the issuance, sale and delivery of the Bonds and the execution and delivery of the Indenture and the Installment Purchase Agreement, filing and recording costs, settlement costs, printing costs, reproduction and binding costs, initial fees and charges of the Trustee (including legal fees), financing discounts, legal fees and charges, insurance fees and charges, financial and other professional consultant fees, fees and charges of rating agencies and/or for credit ratings, fees for transportation and safekeeping of the Bonds and charges and fees in connection with the foregoing.

"Credit Facility" means any line of credit, letter of credit, insurance policy, surety bond or other credit source deposited with the Trustee pursuant to the Indenture.

"Credit Provider" means any municipal bond insurance company, bank or other financial institution or organization which is performing in all material respects its obligations under any Credit Support arrangements for some or all of the Parity Obligations.

"Credit Provider Reimbursement Obligations" means obligations of the City to repay, from Net System Revenues, amounts advanced by a Credit Provider as credit support or liquidity for Parity Obligations.

"Credit Support" means a policy of insurance, a letter of credit, a stand-by purchase agreement, revolving credit agreement or other credit arrangement pursuant to which a Credit Provider provides credit or liquidity support with respect to the payment of interest, principal or the purchase price of any Parity Obligations.

"Date of Delivery" means October 12, 1993.

"Debt Service" means for any Fiscal Year, the sum of (i) the interest payable during such Fiscal Year on all outstanding Parity Obligations, assuming that all outstanding Serial Parity Obligations are retired as scheduled and that all outstanding Term Parity Obligations are redeemed or paid from sinking fund payments as scheduled (except to the extent that such interest is to be paid from the proceeds of sale of any Parity Obligations); (ii) that portion of the principal amount of all outstanding Serial Parity Obligations maturing on the next succeeding principal payment date which falls in such Fiscal Year, (excluding Serial Obligations which at the time of issuance are intended to be paid from the sale of a corresponding amount of Parity Obligations); (iii) that portion of the principal amount of all outstanding Term Parity Obligations required to be redeemed or paid on any redemption date which falls in such Fiscal Year (together with the redemption premiums, if any, thereon); provided that, (i) as to any Balloon Indebtedness, Tender Indebtedness and Variable Rate Indebtedness, interest thereon shall be calculated as provided in the definition of Maximum Annual Debt Service and principal shall be deemed due at the nominal maturity dates thereof; (ii) the amount on deposit in a debt service reserve fund on any date of calculation of Debt Service shall be deducted from the amount of principal due at the final maturity of the Parity Obligations for which such debt service reserve fund was established and in each preceding year until such amount is exhausted; (iii) the amount of any interest payable on any Parity Obligation for which there exists a Qualified Swap Agreement shall be the net amount payable by the City as provided in paragraph (iv) or (viii), as applicable, of the definition of Maximum Annual Debt Service, and (iv) the amount of payments on account of Parity Obligations which are redeemed, retired or repaid on the basis of accreted value due on the scheduled redemption, retirement or repayment date shall be deemed principal payments, and interest that is compounded and paid as part of the accreted value shall be deemed payable on the scheduled redemption, retirement or repayment date but not before.

"Defaulted Obligations" means Obligations in respect of which an Event of Default has occurred and is continuing.

"Depository" means the securities depository acting as Depository pursuant to the Indenture.

"District" means the San Diego Area Wastewater Management District created under Chapter 803 of 1992 Session Laws.

"Federal Securities" means bills, certificates of indebtedness, notes, bonds or other securities which are direct obligations of, or are obligations guaranteed as to principal and interest by, or the principal and interest of which are secured by bills, certificates of indebtedness, notes, bonds or other securities which are direct obligations of or are guaranteed as to principal and interest by the United States of America, whether issued in book entry form or otherwise; direct obligations of the Export-Import Bank of the United States; consolidated debt obligations of the Federal Home Loan Banks; participation certificates and senior debt obligations of the Federal Home Loan Mortgage Corporation; debentures of the Federal Housing Administration; mortgage-backed securities (except stripped mortgage securities which are valued greater than par on the portion of unpaid principal); and senior debt obligations of the Federal National Mortgage Association; participation certificates of the General Services Administration; guaranteed mortgage-backed securities and guaranteed participation certificates of the Government National Mortgage Association; guaranteed participation certificates and guaranteed pool certificates of the Small Business Association; local authority bonds of the U.S. Department of Housing & Urban Development; guaranteed Title XI financings of the U.S. Maritime Administration; guaranteed transit bonds of the Washington Metropolitan Area Transit Authority; and stripped obligations of the Resolution Funding Corporation (stripped with the Federal Reserve Bank of New York).

"Fiscal Year" means the period beginning on July 1 of each year and ending on the next succeeding June 30, or any other twelve-month period selected and designated as the official Fiscal Year of the City.

"Indenture" means the Indenture, dated as of September 1, 1993, between the Authority and the Trustee, as originally executed and as it may from time to time be amended or supplemented by all Supplemental Indentures executed pursuant to the provisions thereof.

"Independent Certified Public Accountant" means any firm of certified public accountants appointed by the City, and each of whom is independent pursuant to the Statement on Auditing Standards No. 1 of the American Institute of Certified Public Accountants.

"Independent Engineer" means any registered engineer or firm of registered engineers of national reputation generally recognized to be well qualified in engineering matters relating to wastewater systems, appointed and paid by the City.

"Information Services" means Financial Information, Inc. "Daily Called Bond Service," 30 Montgomery Street, 10th Floor, Jersey City, New Jersey 17302, Attention: Editor; Kenny Information Services' "Called Bond Service," 55 Broad Street, 28th Floor, New York, New York 10004; Moody's Investors Service, Inc. "Municipal and Government," 99 Church Street, 8th Floor, New York, New York 10007, Attention: Municipal News Reports; and Standard and Poor's Corporation's "Called Bond Record," 25 Broadway, 3rd Floor, New York, New York 10004; or, in accordance with then current guidelines of the Securities and Exchange Commission, to such other addresses and/or such other services providing information with respect to called bonds, or to such services as the Authority may designate in a Certificate of the Authority delivered to the Trustee.

"Installment Payment Date" means any date on which an Installment Payment is due as specified thereto in or determined pursuant to a Supplement.

"Installment Payments" means the Installment Payments scheduled to be paid by the City under and pursuant to the Installment Purchase Agreement or any Supplement thereto.

"Installment Payment Obligations" means Obligations consisting of or which are supported in whole by Installment Payments.

"Installment Purchase Agreement" means the Master Installment Purchase Agreement, dated as of September 1, 1993, entered into between the Authority, as seller, and the City, as purchaser, as originally executed and as it may from time to time be amended or supplemented pursuant to the provisions thereof.

"Insured 1993 Bonds" means the 1993 Bonds maturing in the years 1997 to 2013.

"Interest Payment Date" means each May 15 and November 15, commencing, May 15, 1994.

"Issuing Instrument" means any indenture, trust agreement or Installment Purchase Agreement including any Supplement under which Obligations are issued or created.

"Law" means the Charter and all laws of the State supplemental thereto.

"Maintenance and Operation Costs of the Metropolitan System" means (i) a Qualified Take or Pay Obligation related to the Metropolitan System; and (ii) reasonable and necessary costs spent or incurred by the City for maintaining and operating the Metropolitan System, calculated in accordance with generally accepted accounting principles, including (among other things) the reasonable expenses of management and repair and other expenses necessary to maintain and preserve the Metropolitan System in good repair and working order, and including administrative costs of the City attributable to the

Components which are part of the Metropolitan System, salaries and wages of employees, payments to employees retirement systems (to the extent paid from Metropolitan System Revenues), overhead, taxes (if any), fees from auditors, accountants, attorneys or engineers and insurance premiums, and including all other reasonable and necessary costs of the City or charges required to be paid by it to comply with the terms of the Obligations the proceeds of which are used to acquire Components which are part of the Metropolitan System, including any amounts required to be deposited in the Rebate Fund pursuant to the Tax Certificate relating to the financing of Components which are part of the Metropolitan System, fees and expenses payable to any Credit Provider (other than in repayment of a Credit Provider Reimbursement Obligation), and including expenses incurred or accrued incident to the formation of an entity to which the City may transfer substantially all of the Metropolitan System pursuant to the Installment Purchase Agreement, but excluding in all cases (i) depreciation, replacement and obsolescence charges or reserves therefor; (ii) amortization of intangibles or other bookkeeping entries of a similar nature; (iii) costs of capital additions, replacements, betterments, extensions or improvements to the Metropolitan System, which under generally accepted accounting principles are chargeable to a capital account or to a reserve for depreciation; (iv) charges for the payment of principal and interest on any general obligation bond heretofore or hereafter issued for Metropolitan System purposes; and (v) charges for the payment of principal and interest on account of any Obligation.

"Maintenance and Operation Costs of the Municipal System" means (i) a Qualified Take or Pay Obligation related to the Municipal System; and (ii) reasonable and necessary costs spent or incurred by the City for maintaining and operating the Municipal System, calculated in accordance with generally accepted accounting principles, including (among other things) the reasonable expenses of management and repair and other expenses necessary to maintain and preserve the Municipal System in good repair and working order, and including administrative costs of the City attributable to the Components which are part of the Municipal System, salaries and wages of employees, payments to employees retirement systems (to the extent paid from Municipal System Revenues), overhead, taxes (if any), fees from auditors, accountants, attorneys or engineers and insurance premiums, and including all other reasonable and necessary costs of the City or charges required to be paid by it to comply with the terms of the Obligations the proceeds of which are used to acquire Components which are part of the Municipal System, including any amounts required to be deposited in the Rebate Fund pursuant to the Tax Certificate relating to the financing of Components which are part of the Municipal System, fees and expenses payable to any Credit Provider (other than in repayment of a Credit Provider Reimbursement Obligation), and including expenses incurred or accrued incident to the formation of an entity to which the City may transfer substantially all of the Municipal System pursuant to the Installment Purchase Agreement, but excluding in all cases (i) depreciation, replacement and obsolescence charges or reserves therefor; (ii) amortization of intangibles or other bookkeeping entries of a similar nature; (iii) costs of capital additions, replacements, betterment, extensions or improvements to the Municipal System, which under generally accepted accounting principles are chargeable to a capital account or to a reserve for depreciation; (iv) charges for the payment of principal and interest on any general obligation bond heretofore or hereafter issued for Municipal System purposes; and (v) charges for the payment of principal and interest on account of any Obligation.

"Maintenance and Operation Costs of the Wastewater System" means (i) a Qualified Take or Pay Obligation related to the Wastewater System; and (ii) reasonable and necessary costs spent or incurred by the City for maintaining and operating the Wastewater System, calculated in accordance with generally accepted accounting principles, including (among other things) the reasonable expenses of management and repair and other expenses necessary to maintain and preserve the Wastewater System in good repair and working order, and including administrative costs of the City attributable to the Project and the Installment Purchase Agreement, salaries and wages of employees, payments to employees retirement systems (to the extent paid from System Revenues), overhead, taxes (if any), fees from auditors, accountants, attorneys or engineers and insurance premiums, and including all other reasonable

and necessary costs of the City or charges required to be paid by it to comply with the terms of the Obligations, including this Installment Purchase Agreement, including any amounts required to be deposited in the Rebate Fund pursuant to the Tax Certificate relating to the financing of Components which are part of the Wastewater System, fees and expenses payable to any Credit Provider (other than in repayment of a Credit Provider Reimbursement Obligation), and including expenses incurred or accrued incident to the formation of an entity to which the City may transfer substantially all of the Wastewater System pursuant to the Installment Purchase Agreement, but excluding in all cases (i) depreciation, replacement and obsolescence charges or reserves therefor; (ii) amortization of intangibles or other bookkeeping entries of a similar nature; (iii) costs of capital additions, replacements, betterment, extensions or improvements to the Wastewater System, which under generally accepted accounting principles are chargeable to a capital account or to a reserve for depreciation; (iv) charges for the payment of principal and interest on any general obligation bond heretofore or hereafter issued for Wastewater System purposes; and (v) charges for the payment of principal and interest on account of any Obligation.

"Maximum Annual Debt Service" means at any point in time, with respect to Parity Obligations then Outstanding, the maximum amount of principal and interest becoming due on the Parity Obligations in the then current or any future Fiscal Year, calculated by the City or by an Independent Certified Public Accountant as provided in this definition and provided to the Trustee. For purposes of calculating Maximum Annual Debt Service, the following assumptions shall be used to calculate the principal and interest becoming due in any Fiscal Year:

(i) in determining the principal amount due in each year, payments shall (except to the extent a different subsection of this definition applies for purposes of determining principal maturities or amortization) be assumed to be made in accordance with any amortization schedule established for such debt, including the amount of any Parity Obligations which are or have the characteristics of commercial paper and which are not intended at the time of issuance to be retired from the sale of a corresponding amount of Parity Obligations, and including any scheduled mandatory redemption or prepayment of Parity Obligations on the basis of accreted value due upon such redemption or prepayment, and for such purpose, the redemption payment or prepayment shall be deemed a principal payment; in determining the interest due in each year, interest payable at a fixed rate shall (except to the extent subsection (ii) or (iii) of this definition applies) be assumed to be made at such fixed rate and on the required payment dates;

(ii) if all or any portion or portions of an Outstanding Series of Parity Obligations constitutes Balloon Indebtedness or if all or any portion or portions of a Series of Parity Obligations or such payments then proposed to be issued would constitute Balloon Indebtedness, then, for purposes of determining Maximum Annual Debt Service, each maturity which constitutes Balloon Indebtedness shall be treated as if it were to be amortized in substantially equal annual installments of principal and interest over a term of 25 years commencing in the year the stated maturity of such Balloon Indebtedness occurs, the interest rate used for such computation shall be determined as provided in (iv) or (v) below, as appropriate, and all payments of principal and interest becoming due prior to the year of the stated maturity of the Balloon Indebtedness shall be treated as described in (i) above;

(iii) if any of the Outstanding Series of Parity Obligations constitutes Tender Indebtedness or if Parity Obligations proposed to be issued would constitute Tender Indebtedness, then for purposes of determining Maximum Annual Debt Service, Tender Indebtedness shall be treated as if the principal amount of such Parity Obligations were to be amortized in accordance with the amortization schedule set forth in such Tender Indebtedness or in the standby purchase or liquidity facility established with respect to such Tender Indebtedness, or if no such

amortization schedule is set forth, then such Tender Indebtedness shall be deemed to be amortized in substantially equal annual installments of principal and interest over a term of 25 years commencing in the year in which such Series first subject to tender, the interest rate used for such computation shall be determined as provided in (iv) or (v) below, as appropriate;

(iv) if any Outstanding Parity Obligations constitute Variable Rate Indebtedness (except to the extent paragraph (ii) relating to Balloon Indebtedness or paragraph (iii) relating to Tender Indebtedness applies), the interest rate on such Obligation shall be assumed to be 110% of the daily average interest rate on such Parity Obligations during the 12 months ending with the month preceding the date of calculation, or such shorter period that such Parity Obligations shall have been Outstanding; provided that in the event that such Variable Rate Indebtedness has been issued in connection with a Qualified Swap Agreement, the interest rate for purposes of computing Maximum Annual Debt Service shall be determined by (x) calculating the annualized net amount paid by the City under such Variable Rate Indebtedness and Qualified Swap Agreement (after giving effect to payments made under the Variable Rate Indebtedness and made and received by the City under the Qualified Swap Agreement) during the 12 months ending with the month preceding the date of calculation, or such shorter period that such Qualified Swap Agreement has been in effect, and (y) dividing the amount calculated in clause (x) by the average daily balance of the related Parity Obligations Outstanding during the 12-month period contemplated by clause (x);

(v) if Parity Obligations proposed to be issued will be Variable Rate Indebtedness (except to the extent subsection (ii) relating to Balloon Indebtedness or (iii) relating to Tender Indebtedness applies), then such Parity Obligations shall be assumed to bear interest at 110% of the average of the J.J. Kenny High Grade Index during the prior 12 months ending with the month preceding the date of sale of such additional Parity Obligations, or if that index is no longer published, another similar index selected by the City, or if the City fails to select a replacement index, an interest rate equal to 80% of the yield for outstanding United States Treasury bonds having an equivalent maturity, or if there are no such Treasury bonds having such maturities, 100% of the lowest prevailing prime rate of any of the five largest commercial banks in the United States ranked by assets; provided that in the event that such Variable Rate Indebtedness will be issued in connection with a Qualified Swap Agreement, the interest rate for purposes of computing Maximum Annual Debt Service shall be determined by (a) calculating the net amount to be paid by the City under such Variable Rate Indebtedness and Qualified Swap Agreement after giving effect to payments to be made under the Variable Rate Indebtedness and to be made and received by the City under the Qualified Swap Agreement for the period during which the Qualified Swap Agreement is to be in effect and for this purpose any variable rate of interest agreed to be paid thereunder shall be deemed to be the rate at which the related Parity Obligation shall be assumed to bear interest, and (b) dividing the amount calculated in clause (a) by the average principal amount of the related Parity Obligation to be Outstanding during the first year after the issuance of such Parity Obligation;

(vi) if moneys or Permitted Investments have been deposited by the City into a separate fund or account or are otherwise held by the City or by a fiduciary to be used to pay principal and/or interest on specified Parity Obligations, then the principal and/or interest to be paid from such moneys, Permitted Investments or from the earnings thereon shall be disregarded and not included in calculating Maximum Annual Debt Service;

(vii) if Parity Obligations are Paired Obligations, the interest thereon shall be the resulting linked rate or effective fixed rate to be paid with respect to such Paired Obligations; and

(viii) in the event that an agreement or commitment which, at the time of calculation is a Qualified Swap Agreement is or is to be in effect with respect to a Parity Obligation which is not Variable Rate Indebtedness, the interest rate of such Parity Obligation for purposes of calculating Maximum Annual Debt Service shall be calculated as follows:

(a) for such a Qualified Swap Agreement which is in effect on the date of calculation, the interest rate shall be calculated in the same manner as is specified in paragraph (iv) for a Qualified Swap Agreement issued in connection with Variable Rate Indebtedness which is Outstanding on the date of calculation; and

(b) for such a Qualified Swap Agreement which is not in effect on the date of calculation, the interest rate shall be calculated in the same manner as is specified in paragraph (v) for a Qualified Swap Agreement to be issued in connection with Variable Rate Indebtedness to be Outstanding after the date of calculation, and for this purpose any variable rate of interest agreed to be paid thereunder shall be assumed to be the rate assumed for Variable Rate Indebtedness described in paragraph (v).

"Maximum Rate" means, on any day, the maximum interest rate allowed by law.

"Metropolitan System" means any and all facilities, properties and improvements designated by the City in its sole discretion as part of the Metropolitan System, and used for the conveyance from the Municipal System and treatment of sewage collected by the City through its Municipal System or by any of the Participating Agencies.

"Metropolitan System Revenues" means all income, rents, rates, fees, charges and other moneys derived from the ownership or operation of the Metropolitan System, including, without limiting the generality of the foregoing, (i) all income, rents, rates, fees, charges (including standby and capacity charges), or other moneys derived by the City from the wastewater services, facilities, and commodities or byproducts sold, furnished or supplied through the facilities of or in the conduct or operation of the business of the Metropolitan System, and including, without limitation, investment earnings on the operating reserves to the extent that the use of such earnings is limited to the Metropolitan System by or pursuant to law, earnings on any Reserve Fund for Obligations the proceeds of which were used to finance improvements which are part of the Metropolitan System, or to fund or refund any such Obligations, but only to the extent that such earnings may be utilized under the Issuing Instrument for the payment of debt service for such Obligations; (ii) the proceeds derived by the City directly or indirectly from the sale, lease or other disposition of a part of the Metropolitan System; (iii) any amount received from the levy or collection of taxes which are solely available and are earmarked for the support of the operation of the Metropolitan System; and (iv) amounts received under contracts or agreements with governmental or private entities and designated for capital costs for Components which are to be part of the Metropolitan System; and (v) grants received from the United States of America or from the State for Components which are to be part of the Metropolitan System: provided, however, that Metropolitan System Revenues shall not include: (a) in all cases, customers' deposits or any other deposits or advances subject to refund until such deposits or advances have become the property of the City; and (b) the proceeds of borrowings. Notwithstanding the foregoing, there shall be deducted from Metropolitan System Revenues any amounts transferred into a Rate Stabilization Fund as contemplated by the Installment Purchase Agreement, and there shall be added to Metropolitan System Revenues any amounts transferred out of such Rate Stabilization Fund to pay Maintenance and Operation Costs of the Metropolitan System.

"Moody's" means Moody's Investors Service, Inc., a Delaware corporation, and its successors, and if such corporation shall for any reason no longer perform the functions of a securities rating agency, "Moody's" shall be deemed to refer to any other nationally recognized securities rating agency designated by the Authority and the City.

"Municipal Bond Insurance Policy" means the municipal bond insurance policy issued by AMBAC Indemnity insuring payment when due of the principal of and interest on the Insured 1993 Bonds as provided therein.

"Municipal System" means any and all facilities, properties and improvements at any time owned, controlled or operated by the City, and designated by the City in its sole discretion as part of the Municipal System, for the collection of sewage from the points of origination thereof and the conveyance thereof to the Metropolitan System.

"Municipal System Revenues" means all income, rents, rates, fees, charges and other moneys derived from the ownership or operation of the Municipal System, including, without limiting the generality of the foregoing, (i) all income, rents, rates, fees, charges (including standby and capacity charges), or other moneys derived by the City from the wastewater services, facilities, and commodities or byproducts sold, furnished or supplied through the facilities of or in the conduct or operation of the business of the Municipal System, and including, without limitation, investment earnings on the operating reserves to the extent that the use of such earnings is limited to the Municipal System by or pursuant to law, earnings on any Reserve Fund for Obligations the proceeds of which were used to finance improvements which are part of the Municipal System, or to fund or refund any such Obligations, but only to the extent that such earnings may be utilized under the Issuing Instrument for debt service for such Obligations; (ii) the proceeds derived by the City directly or indirectly from the sale, lease or other disposition of a part of the Municipal System; (iii) any amount received from the levy or collection of taxes which are solely available and are earmarked for the support of the operation of the Municipal System; (iv) amounts received under contracts or agreements with governmental or private entities and designated for capital costs for Components which are to be part of the Municipal System; and (v) grants received from the United States of America or from the State for Components which are to be part of the Municipal System: provided, however, that Municipal System Revenues shall not include: (i) in all cases, customers' deposits or any other deposits or advances subject to refund until such deposits or advances have become the property of the City; and (ii) the proceeds of borrowings. Notwithstanding the foregoing, there shall be deducted from Municipal System Revenues any amounts transferred into a Rate Stabilization Fund as contemplated by the Installment Purchase Agreement and there shall be added to Municipal System Revenues any amounts transferred out of such Rate Stabilization Fund to pay Maintenance and Operation Costs of the Municipal System.

"Net Proceeds" means when used with respect to any insurance, self insurance or condemnation award, the proceeds from such award remaining after payment of all expenses (including attorneys' fees) incurred in the collection of such proceeds.

"Net Metropolitan System Revenues" means for any Fiscal Year, the Metropolitan System Revenues for such Fiscal Year less the Maintenance and Operation Costs of the Metropolitan System for such Fiscal Year.

"Net Municipal System Revenues" means for any Fiscal Year, the Municipal System Revenues for such Fiscal Year less the Maintenance and Operation Costs of the Municipal System for such Fiscal Year.

"Net System Revenues" means for any Fiscal Year, the System Revenues for such Fiscal Year less the Maintenance and Operation Costs of the Wastewater System for such Fiscal Year.

"1993 Bonds" means the Public Facilities Financing Authority of the City of San Diego Sewer Revenue Bonds, Series 1993 (Payable Solely from Installment Payments Secured by Wastewater System Net Revenues) authorized by and at any time Outstanding pursuant to the Indenture and executed, issued and delivered in accordance with the Indenture.

"Obligations" means (i) obligations of the City for money borrowed (such as bonds, notes or other evidences of indebtedness) or as installment purchase payments under any contract (including Installment Payments), or as lease payments under any financing lease (determined to be such in accordance with generally accepted accounting principles), the principal and interest on which are payable from Net System Revenues; (ii) obligations to replenish any debt service reserve funds with respect to such obligations of the City; (iii) obligations secured by or payable from any of such obligations of the City; and (iv) obligations of the City payable from Net System Revenues under (a) any contract providing for payments based on levels of, or changes in, interest rates, currency exchange rates, stock or other indices, (b) any contract to exchange cash flows or a series of payments or (c) any contract to hedge payment, currency, rate spread or similar exposure, including but not limited to interest rate swap agreements and interest rate cap agreements.

"Opinion of Bond Counsel" means a written opinion of counsel of recognized national standing in the field of law relating to municipal bonds, appointed and paid by the Authority and satisfactory to the Trustee.

"Outstanding" when used as of any particular time with respect to Bonds, means (other than Bonds owned or held by or for the account of the Authority or the City) all Bonds theretofore or thereupon executed by the Authority and authenticated and delivered by the Trustee pursuant to the Indenture, except: (i) Bonds theretofore cancelled by the Trustee or surrendered to the Trustee for cancellation; (ii) Bonds paid or deemed to have been paid within the meaning of the Indenture; (iii) Bonds beneficially owned by the City or the Authority; and (iv) Bonds in lieu of or in substitution for which other Bonds shall have been executed by the Authority and authenticated and delivered pursuant to the Indenture; and the term "Outstanding," when used as of any particular time with respect to Obligations, means all Obligations theretofore or thereupon executed, authenticated and delivered by the City or any trustee or other fiduciary, except (i) Obligations theretofore cancelled or surrendered for cancellation; (ii) Obligations paid or deemed to be paid within the meaning of any defeasance provisions thereof; (iii) Obligations owned by the City or the Authority; (iv) Obligations in lieu of or in substitution for which other Obligations have been executed and delivered; and (v) Obligations assumed by the District or other successor in accordance with the Installment Purchase Agreement.

"Owner" means any person who shall be the registered owner of any Outstanding Bond, as shown on the registration books required to be maintained by the Trustee pursuant to the Indenture, and the term "Owner," when used with respect to Obligations means any person who will be the registered owner of any outstanding Obligation certificate or other evidence of a right to receive Installment Payments directly or as security for payment of the Obligation.

"Paired Obligations" means any Series (or portion thereof) of Parity Obligations designated as Paired Obligations in a Supplement or related Issuing Instrument or other document authorizing the issuance or incurrence thereof, which are simultaneously issued or incurred (i) the principal of which is of equal amount maturing and to be redeemed (or cancelled after acquisition thereof) on the same dates and in the same amounts; and (ii) the interest rates which, taken together, result in an irrevocably fixed interest rate obligation of the City for the terms of such Parity Obligations.

"Parity Installment Obligation" means Obligations consisting of or payable from Installment Payments which are not subordinated in right of payment to other Installment Payments.

"Parity Obligations" means, (i) Parity Installment Obligations, (ii) Obligations the principal and interest of which are payable on a parity with Parity Installment Obligations, (iii) Qualified Take or Pay Obligations and (iv) Qualified Swap Agreements. Notwithstanding the foregoing, any amounts payable with respect to a Qualified Swap Agreement which represent termination payments or unwinding payments will not be deemed to be Parity Obligations unless (i) such Qualified Swap Agreement expressly states that such termination payments or unwinding payments are to be considered Parity Obligations and (ii) each Rating Agency which maintains a rating with respect to any Parity Obligation confirms in writing to the City that the inclusion of such termination payments or unwinding payments as Parity Obligations will not result in a downgrading, withdrawal or suspension of such rating.

"Participating Agencies" means the cities and other agencies providing local sewage collection services within their respective areas and which (i) have entered into contracts with the City pursuant to which the City is providing sewage collection, transportation, treatment or disposal services or (ii) are having such services provided by the District or other successor to the City to which the Metropolitan System has been transferred pursuant to the Installment Purchase Agreement.

"Payment Fund" means the fund designated in the Issuing Instrument as the fund into which Installment Payments are to be deposited for the purposes of paying principal or interest on related Obligations.

"Permitted Investments" means any of the following to the extent then permitted by law and the Indenture:

(i) direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America, including obligations issued or held in book entry form on the books of the Department of the Treasury of the United States and including a receipt, certificate or any other evidence of an ownership interest in an aforementioned obligation, or in specified portions thereof (which may consist of specified portions of interest thereon);

(ii) (a) obligations issued by the Federal Farm Credit Bank, Federal Home Loan Bank Board, Federal Home Loan Mortgage Corporation, Student Loan Marketing Association or the Tennessee Valley Authority, or (b) obligations, participations or other instruments of or issued by, or fully guaranteed as to interest and principal by, the Federal National Mortgage Association (excluding stripped mortgage backed securities which are valued at greater than par on the unpaid principal), or (c) guaranteed portions of Small Business Administration notes, or (d) obligations, participations or other instruments of or issued by a federal agency or a United States of America government-sponsored enterprise; provided, however, that prior to investing in investments described in clause (d) hereof, the City will have provided to the Trustee evidence that such investment is then rated not lower than A by Moody's and S&P;

(iii) obligations of any state, territory or commonwealth of the United States of America or any political subdivision thereof or any agency or department of the foregoing; provided, that at the time of their purchase such obligations are rated not lower than A by Moody's and S&P;

(iv) bonds, notes, debentures or other evidences of indebtedness issued or guaranteed by any corporation which are, at the time of purchase, rated by Moody's and S&P in their respective highest short-term rating categories, or, if the term of such indebtedness is longer than three years, rated not lower than A by Moody's and S&P;

(v) taxable commercial paper or tax-exempt commercial paper rated in their respective highest rating categories by Moody's;

(vi) variable rate obligations required to be redeemed or purchased by the obligor or its agent or designee upon demand of the holder thereof secured as to such redemption or purchase requirements by a liquidity agreement with a corporation and as to the payment of interest and principal either upon maturity or redemption (other than upon demand by the holder thereof) thereof by an unconditional credit facility of a corporation; provided, that the variable rate obligations themselves are rated in their respective highest rating categories for its short-term rating, if any, and not lower than A for its long-term rating, if any, by Moody's and S&P, and that the corporations providing the liquidity agreement and credit facility have, at the date of acquisition of the variable rate obligation by the Trustee, an outstanding issue of unsecured, uninsured and unguaranteed debt obligations rated not lower than A by Moody's and S&P;

(vii) certificates of deposit, whether negotiable or non-negotiable, issued by a state or national bank (including the Trustee) or a state or federal savings and loan association, provided that such certificates of deposit shall be either (A) continuously and fully insured by the Federal Deposit Insurance Corporation or (B) have maturities of not more than 365 days and issued by any state or national bank or a state or federal savings and loan association, the short term obligations of which are rated in the highest short term letter and numerical rating category by Moody's and S&P;

(viii) bills of exchange or time drafts drawn on and accepted by a commercial bank, otherwise known as bankers acceptances, which bank has short-term obligations outstanding which are rated by Moody's and S&P in their respective highest short-term rating categories, and which bankers acceptances mature not later than 270 days from the date of purchase;

(ix) any repurchase agreement with any bank or trust company organized under the laws of any state of the United States or any national banking association (including the Trustee) having a minimum permanent capital of one hundred million dollars ($100,000,000) and with short-term debt rated by Moody's and S&P in their respective three highest short-term rating categories or any government bond dealer reporting to, trading with, and recognized as a primary dealer by, the Federal Reserve Bank of New York, which agreement is secured by any one or more of the securities and obligations described in clauses (i) or (ii) above, which shall have a market value (exclusive of accrued interest and valued at least monthly) at least equal to the principal amount of such investment and shall be lodged with the Trustee or other fiduciary, as custodian for the Trustee, by the bank, trust company, national banking association or bond dealer executing such repurchase agreement, and the entity executing each such repurchase agreement required to be so secured shall furnish the Trustee with an undertaking satisfactory to it that the aggregate market value of all such obligations securing each such repurchase agreement (as valued at least monthly) will be an amount equal to the principal amount of such repurchase agreement and Trustee shall be entitled to rely on each such undertaking;

(x) any cash sweep or similar account arrangement of or available to the Trustee, the investments of which are limited to investments described in clauses (i), (ii), (iii) and (ix) of this definition and any money market fund, the entire investments of which are limited to investments described in clauses (i), (ii), (iii) and (ix) of this definition and which money market fund is rated in their respective highest rating categories by Moody's and S&P;

(xi) any guaranteed investment contract approved in writing by AMBAC Indemnity with a financial institution or insurance company which has at the date of execution thereof an outstanding issue of unsecured, uninsured and unguaranteed debt obligations or a claims paying ability rated not lower than Aa/AA by Moody's and S&P;

(xii) certificates, notes, warrants, bonds or other evidence of indebtedness of the State of California or of any political subdivision or public agency thereof which are rated in the highest short-term rating category or within one of the three highest long term rating categories of Moody's and S&P (excluding securities that do not have a fixed par value and/or whose terms do not promise a fixed dollar amount at maturity or call date);

(xiii) for amounts less than $10,000, interest-bearing demand or time deposits (including certificates of deposit) in a nationally or state-chartered bank, or state or federal savings and loan association in the State, fully insured by the Federal Deposit Insurance Corporation, including the Trustee or any affiliate thereof;

(xiv) investments in taxable money market funds or portfolios restricted to obligations maturing in one year or less and which funds or portfolios are rated in either of the two highest rating categories by Moody's and S&P, or have or are portfolios guaranteed as to payment of principal and interest by full faith and credit of the United States of America;

(xv) any obligations which are then legal investments for moneys of the Authority under the laws of the State; provided, that if such investments are not required to be collateralized or insured such investments shall be issued by entities the debt securities of which are rated in one of the two highest short-term or long-term rating categories by Moody's and S&P; provided further, that any repurchase agreements must be fully secured by collateral security described in clauses (i) and (ii) of this definition, which collateral (a) is held by the Trustee or a third party agent during the term of such repurchase agreement and in which collateral the Trustee has a perfected first security interest, (b) has a market value determined at least every thirty days at least equal to 103% of the amount so invested and (c) may be liquidated within seven days if the market value of such collateral is at any time less than the amount so invested;

(xvi) investments in the Local Agency Investment Fund created pursuant to Section 16429.1 of the California Government Code.

(xvii) shares of beneficial interest in diversified management companies investing exclusively in securities and obligations described in clauses (i) through (xvi) of this definition and which companies are rated in their respective highest rating categories by Moody's and S&P or have an investment advisor registered with the Commission with not less than five years' experience investing in such securities and obligations and with assets under management in excess of five hundred million dollars ($500,000,000);

(xviii) for amounts held in the Acquisition Fund only, any interest rate swap agreement with a counterparty which has at the date of execution thereof an unsecured, uninsured and nonguaranteed long-term obligation rated not lower than A by Moody's and S&P; provided, that such counterparty may satisfy such rating requirements by providing an insurance policy for its obligations under any such swap agreement from an insurer whose unsecured ratings are in the rating categories required above, or alternatively by providing an unconditional, irrevocable, unsecured, uninsured and nonguaranteed guaranty of any other entity, including an affiliated entity, whose unsecured ratings are in the rating categories required above; and

(xix) any other obligations which are approved in writing by Moody's (if Moody's is then rating the Bonds), S&P (if S&P is then rating the Bonds) and AMBAC Indemnity.

Pre-Refunded Municipal" means any bonds or other obligations of any state of the United States of America or of any other agency, instrumentality or local government unit of any such state which are not callable at the option of the obligor prior to maturity or as to which irrevocable instructions have been given by the obligor to call on the date specified in the notice; and which are rated, based on the escrow, in the highest rating category of Moody's and S&P.

"Project" means the construction, replacement and improvements to the Wastewater System described in an exhibit attached to the Installment Purchase Agreement and as modified in conformance with the Installment Purchase Agreement.

"Purchase Price" means the principal amount plus interest thereon owed by the City to the Authority under the terms of and as provided in the Installment Purchase Agreement.

"Qualified Take or Pay Obligation" means the obligation of the City to make use of any facility, property or services, or some portion of the capacity thereof, or to pay therefor from System Revenues, or both, whether or not such facilities, properties or services are ever made available to the City for use, and there is provided to the City a certificate of an Independent Engineer to the effect that the incurrence of such obligation will not adversely affect the ability of the City to comply with the provisions of the Installment Purchase Agreement.

"Qualified Swap Agreement" means a contract or agreement, payable from Net System Revenues on a parity with Parity Obligations, intended to place Obligations on the interest rate, currency, cash flow or other basis desired by the City, including, without limitation, any interest rate swap agreement, currency swap agreement, forward payment conversion agreement or futures contract, any contract providing for payments based on levels of, or changes in, interest rates, currency exchange rates, stock or other indices, any contract to exchange cash flows or a series of payments, or any contract, including, without limitation, an interest rate floor or cap, or an option, put or call, to hedge payment, currency, rate, spread or similar exposure, between the City and the counterparty; provided that not less than 30 days prior to the City's execution of such contract or agreement, each Rating Agency which maintains a rating with respect to any Parity Obligation receives notice in writing of the City's pending execution thereof; and provided further that at the time of origination each Rating Agency which maintains a rating with respect to any Parity Obligation confirms in writing to the City that the City's execution and delivery of such contract will not result in a downgrading, withdrawal or suspension of such rating.

"Rating Agencies" means Moody's and S&P, or whichever of them is rating Parity Obligations.

"Rebate Requirement" shall have the meaning specified in any Tax Certificate.

"Record Date" means the fifteenth day preceding an Interest Payment Date, whether or not such day is a Business Day.

"Reserve Requirement" means, as of any date of calculation, the least of (i) 10% of the proceeds of the Bonds, (ii) Maximum Annual Debt Service for the current or any future Fiscal Year or (iii) 125% of average Annual Debt Service. For purposes of determining if the amount on deposit in the Reserve Fund equals the Reserve Requirement, any Credit Facility shall be deemed to be a deposit in the face amount or stated amount of such Credit Facility, less any unreimbursed drawings or other amounts not reinstated under such Credit Facility.

"Revenues" means all Installment Payments pursuant to the Installment Purchase Agreement and the interest or profits from the investment of money in any account or fund (other than the Rebate Fund) pursuant to the Indenture.

"S&P" means Standard & Poor's Corporation, a New York corporation, and its successors, and if such corporation shall for any reason no longer performs the functions of a securities rating agency, "S&P" shall be deemed to refer to any other nationally recognized securities rating agency designated by the Authority and the City.

"Serial Bonds" means Bonds for which no sinking fund payments are provided.

"Serial Parity Obligations" means Serial Obligations which are Installment Payments or are payable on a parity with Parity Installment Obligations.

"Serial Obligations" means Obligations for which no sinking fund payments are provided.

"Series" means Obligations issued at the same time or sharing some other common term or characteristic and designated as a separate Series.

"Sewer Revenue Fund" means the fund established pursuant to the Ordinances of the City Council of the City and which fund the City agrees and covenants to maintain so long as any Installment Payments or payments due by the City under any Qualified Swap Agreement remain unpaid, and all moneys in such fund shall be held in trust and applied and used solely as provided in the Installment Purchase Agreement.

"State" means the State of California.

"Subordinated Obligations" means any Obligations, the payment of principal and interest on which are subordinated in right of payment to Parity Obligations.

"Supplement" means a Supplement, substantially in the form of an exhibit attached to the Installment Purchase Agreement, providing for the payment of specific Installment Payments as the Purchase Price for Components of the Project, executed and delivered by the City and the Authority.

"Supplemental Indenture" means any indenture then in full force and effect which has been duly executed and delivered by the Authority and the Trustee amendatory of the Indenture or supplemental thereto; but only if, and to the extent that, such Supplemental Indenture is specifically authorized under the Indenture.

"System Revenues" means all income, rents, rates, fees, charges and other moneys derived from the ownership or operation of the Wastewater System, including, without limiting the generality of the foregoing, (i) all income, rents, rates, fees, charges (including standby capacity charges), or other moneys derived by the City from wastewater services, facilities, and commodities or byproducts sold, furnished or supplied through the facilities of or in the conduct or operation of the business of the Wastewater System, but including, without limitation, investment earnings on the operating reserves to the extent that the use of such earnings is limited to the Wastewater System by or pursuant to law, earnings on Reserve Fund for Obligations but only to the extent that such earnings may be utilized under the Issuing Instrument for the payment of debt service for such Obligations; (ii) the proceeds derived by the City directly or indirectly from the lease of a part of the Wastewater System; (iii) any amount received from the levy or collection of taxes which are solely available and are earmarked for the support of the operation of the Wastewater System; (iv) amounts received under contracts or agreements with governmental or private entities and designated for capital costs; and (v) grants received from the United States of America or from the State of California; provided, however, that System Revenues shall not include: (a) in all cases, customers' deposits or any other deposits or advances subject to refund until such deposits or advances have become the property of the City; and (b) the proceeds of borrowings. Notwithstanding the foregoing, there will be deducted from System Revenues any amounts transferred into a Rate Stabilization Fund as contemplated by the Installment Purchase Agreement, and there will be added to System Revenues any amounts transferred out of such Rate Stabilization Fund to pay Maintenance and Operation Costs of the Wastewater System.

"Tax Certificate" means the certificate delivered with respect to the Bonds on which it is intended that interest thereon will be excluded from gross income pursuant to Section 103 of the Code.

"Tax-Exempt Installment Payment Obligations" means Installment Payment Obligations in respect of which it is intended that the interest component thereof will be excluded from gross income pursuant to Section 103 of the Code.

"Tender Indebtedness" means any Parity Obligations or portions of Parity Obligations, a feature of which is an option, on the part of the holders thereof, or an obligation, under the terms of such Parity Obligations, to tender all or a portion of such Parity Obligations to the City, a Paying Agent or other fiduciary or agent for payment or purchase and requiring that such Parity Obligations or portions of Parity Obligations be purchased if properly presented.

"Term Bonds" means Bonds which are payable on or before their specified maturity dates from sinking fund payments established for that purpose and calculated to retire such Bonds on or before their specified maturity dates.

"Term Parity Obligations" means Term Obligations which are Parity Obligations or are payable on a parity with Parity Installment Obligations.

"Term Obligations" means Obligations which are payable on or before their specified maturity dates from sinking fund payments established for that purpose and calculated to retire such Obligations on or before their specified maturity dates.

"Treasurer" means the Treasurer of the City.

"Trustee" means State Street Bank and Trust of California, N.A., a national banking association existing under and by virtue of the laws of the United States, or any other association or corporation which may at any time be substituted in its place as provided in the Indenture.

"Variable Rate Indebtedness" means any portion of indebtedness evidenced by Parity Obligations the interest rate on which is not established at the time of incurrence of such indebtedness and has not, at some subsequent date, been established at a rate which is not subject to fluctuation or subsequent adjustment, excluding Paired Obligations.

"Wastewater Service" means the wastewater collection and treatment services made available or provided by the Wastewater System.

"Wastewater System" means any and all facilities, properties and improvements at any time owned, controlled or operated by the City as part of the Sewer Revenue Fund (defined in the Installment Purchase Agreement) for the collection, treatment, distribution, administration, disposal or reclamation of waste, including the Municipal System and the Metropolitan System. After any transfer of the Metropolitan System permitted by the Installment Purchase Agreement, the term "Wastewater System" will mean the Municipal System with respect to the City and the Metropolitan System with respect to the transferee.

"Written Request of the Authority" means an instrument in writing signed by the President, the Vice President, the Secretary and the Assistant Secretary of the Authority, or by any other officer of the Authority duly authorized by the Authority for that purpose.

"Written Request of the City" means an instrument in writing signed by the City Manager or the Financial Management Director, or by any other official of the City duly authorized by the City for that purpose.

APPENDIX E

SUMMARY OF PRINCIPAL LEGAL DOCUMENTS

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SUMMARY OF PRINCIPAL LEGAL DOCUMENTS

The following are brief summaries of certain provisions of the Indenture and the Installment Purchase Agreement. These summaries do not purport to be full and complete statement of the provisions of such documents and are qualified in their entirety by reference to the complete text of such documents. Prior to delivery of the Bonds, copies of these documents are available from the City and after delivery of the Bonds, from the Trustee.

THE INDENTURE

General

The Indenture sets forth the terms of the 1993 Bonds, the nature and extent of the security for the 1993 Bonds, various rights of the Owners of the 1993 Bonds, rights, duties and immunities of the Trustee and the rights and obligations of the Authority. Certain provisions of the Indenture are summarized below. Other provisions are summarized in this Official Statement under the caption "DESCRIPTION OF THE SERIES 1993 BONDS". This summary does not purport to be complete or definitive and is qualified in its entirety by reference to the full terms of the Indenture.

In consideration of the acceptance of the Bonds by the Owners thereof, the Indenture will be deemed to be and will constitute a contract between the Authority and the Trustee for the benefit of the Owners from time to time of all Bonds authorized, executed, issued and delivered under the Indenture and then Outstanding to secure the full and final payment of the interest on and principal of and redemption premiums, if any, on all Bonds which may from time to time be authorized, executed, issued and delivered under the Indenture, subject to the agreements, conditions, covenants and provisions contained in the Indenture and all agreements and covenants set forth in the Indenture to be performed by or on behalf of the Authority will be for the equal and proportionate benefit, protection and security of all Owners of the Bonds without distinction, preference or priority as to security or otherwise of any Bonds over any other Bonds by reason of the number or date thereof or the time of authorization, sale, whatsoever, except as expressly provided in the Indenture or therein.

Establishment of Funds and Accounts. The Authority will establish and maintain the Acquisition Fund to be held by the Treasurer and disbursed by the Auditor and Comptroller in accordance with the Indenture. The Indenture establishes the Payment Fund and the Reserve Fund. Within the Payment Fund, the Trustee will establish and maintain an Interest Account, a Principal Account, a Bond Sinking Account and a Redemption Account. Each of the funds and accounts established in the Indenture will be maintained by the Trustee separate and apart from all other moneys of the Authority held by it, for the benefit of the Authority, the City and the Owners of the Bonds and will be expended solely as provided in the Indenture.

Application of the Acquisition Fund. The Treasurer will hold the moneys in the Acquisition Fund and the Auditor and Comptroller will disburse such moneys to pay Acquisition Costs and to pay Costs of Issuance. Such disbursements will be made from time to time upon receipt of a Written Request of the City on behalf of the Authority which states with respect to each disbursement to be made: (a) (1) the requisition number, (2) the name and address of the person, firm or corporation to whom payment is due, (3) the amount to be disbursed, and (4) that each obligation therein has been properly incurred,

and is a proper charge against the Acquisition Fund and has not been the basis of any previous disbursement; (b) specifies in reasonable detail the nature of the obligation; and (c) is accompanied by a bill or statement of account for each obligation.

If, after payment by the Auditor and Comptroller of all Written Requests of the City on behalf of the Authority tendered under the provisions of the Indenture, and delivery to the Treasurer, the Auditor and Comptroller and the Trustee of a Certificate of Completion, there remains any balance of money in the Acquisition Fund, all money so remaining will be transferred to the Trustee and deposited, first to the Reserve Fund to the extent necessary to make the amount on deposit therein equal to the Reserve Requirement, and thereafter to the accounts of the Payment Fund as directed by the Authority.

Pledge of Revenues. Subject only to the provisions of the Indenture permitting the application thereof for the purpose and on the terms and conditions set forth therein, while any Bonds remain Outstanding, all Revenues and amounts on deposit in the funds and accounts established under the Indenture (other than amounts on deposit in the Rebate Fund) are irrevocably pledged to the payment of the interest on and principal of the Bonds.

Pursuant to the Indenture, the Authority transfers, conveys and assigns to the Trustee, for the benefit of the Owners, all of the Authority's rights under the Installment Purchase Agreement (excepting certain indemnification rights thereunder), including the right to receive Installment Payments from the City, the right to receive any proceeds of insurance maintained under the Installment Purchase Agreement or any condemnation award rendered with respect to the Project and the right to exercise any remedies provided in the Installment Purchase Agreement in the event of default by the City under the Installment Purchase Agreement.

The Trustee will be entitled to and will receive all of the Revenues, and any Revenues collected or received by the Authority will be deemed held, collected or received by the Authority as agent of the Trustee and will forthwith be paid by the Authority to the Trustee.

Application of the Payment Fund. Subject to the provisions of the Indenture relating to the Authority's Tax Covenants, all money in the Payment Fund will be set aside by the Trustee in the following accounts within the Payment Fund in the following order of priority:

(a) Interest Account,

(b) Principal Account, and

(c) Redemption Account.

All money in each of such accounts will be held in trust by the Trustee and will be applied, used and withdrawn only for the purposes authorized in the Indenture.

Interest Account. On or before each Interest Payment Date, the Trustee will set aside from the Payment Fund and deposit in the Interest Account that amount of money which, together with any money contained in the Interest Account, is equal to the aggregate amount of interest becoming due and payable on all Outstanding Bonds on such Interest Payment Date. No deposit need be made in the Interest Account if the amount contained in the Interest Account is at least equal to the aggregate amount of interest becoming due and payable on all Outstanding Bonds on such Interest Payment Date.

All money in the Interest Account will be used and withdrawn by the Trustee solely for the purpose of paying the interest on the Bonds as it becomes due and payable (including accrued interest on any Bonds purchased or redeemed prior to maturity).

Principal Account. On or before May 15 of each year, beginning on May 15, 1994, the Trustee will set aside from the Payment Fund and deposit in the Principal Account an amount of money equal to the aggregate principal amount of all Outstanding Serial Bonds maturing on such May 15 plus the aggregate amount of all sinking fund payments required to be made with respect to the Term Bonds on such May 15. No deposit need be made in the Principal Account if the amount contained therein is at least equal to the aggregate amount of the principal of all Outstanding Serial Bonds maturing by their terms on such May 15 plus the aggregate amount of all sinking fund payments required to be made on such May 15 for all Outstanding Term Bonds.

The Trustee will establish and maintain within the Principal Account a separate subaccount for the Term Bonds of each series and maturity, designated as the "Sinking Account" (the "Sinking Account"). With respect to each Sinking Account, on each mandatory sinking account payment date established for such Sinking Account, the Trustee will apply the mandatory sinking account payment required on that date to the redemption (or payment at maturity) of Term Bonds of the series and maturity for which such Sinking Account was established, upon the notice and in the manner provided in the Indenture or in the Supplemental Indenture pursuant to which such series of Bonds were issued; provided that, at any time prior to giving such notice of such redemption, at the direction of the City or the Authority, the Trustee may apply moneys in such Sinking Account to the purchase of Term Bonds of such series and maturity at public or private sale, as and when and at such prices (including brokerage and other charges, but excluding accrued interest, which is payable from the Interest Account) as will be determined by the Authority, except that the purchase price (excluding accrued interest) will not exceed the redemption price that would be payable for such Bonds upon redemption by application of such mandatory sinking account payment. If, during the twelve-month period immediately preceding said mandatory sinking account payment date, the Trustee has purchased Term Bonds of such series and maturity with moneys in such Sinking Account, such Bonds so purchased will be applied, to the extent of the full principal amount thereof, to reduce said mandatory sinking account payment.

All money in the Principal Account will be used and withdrawn by the Trustee solely for the purpose of paying the principal of the Bonds as they will become due and payable, except that any money in any Sinking Account will be used and withdrawn by the Trustee only to purchase or to redeem or to pay Term Bonds for which such Sinking Account was created.

Redemption Account. All money in the Redemption Account will be held in trust by the Trustee and will be applied, used and withdrawn either to redeem Bonds pursuant to the Indenture or for the purposes authorized in the Indenture. Any moneys which, pursuant to the prepayment section of the Installment Purchase Agreement, are to be used to redeem Bonds will be deposited by the Trustee in the Redemption Account. The Trustee will, on the scheduled redemption date, withdraw from the Redemption Account and pay to the Owners entitled thereto an amount equal to the redemption price of the Bonds to be redeemed on such date.

Any delinquent Installment Payments with respect to the Project will be applied first to the Interest Account for the immediate payment of interest payments past due and then to the Principal Account for immediate payment of principal payments past due according to the tenor of any Bond, and then to the Reserve Fund to the extent necessary to make the amount on deposit therein equal to the Reserve Requirement. Any remaining money representing delinquent Installment Payments will be deposited in the Payment Fund to be applied in the manner provided therein.

Reserve Fund. After making the required deposits into the accounts of the Payment Fund, the Trustee will deposit in the Reserve Fund an amount of money which, together with the amount already on deposit therein, will be equal to the Reserve Requirement. No deposit need be made in the Reserve Account so long as there will be on deposit therein a sum equal to at least the Reserve Requirement. The Trustee will promptly notify the City if the amount on deposit in the Reserve Account is less than the Reserve Requirement.

All money in the Reserve Fund shall be used and withdrawn by the Trustee solely for the purpose of paying the interest on, or principal of, or redemption premiums, if any, on the Bonds in the event that no other money of the Authority is lawfully available therefor, or for the retirement of all Bonds then Outstanding. All interest income received by the Trustee on investment of moneys in the Reserve Fund shall be retained in the Reserve Fund so long as amounts on deposit in the Reserve Fund are less than the Reserve Requirement. Subject to the foregoing, earnings and profits on investments in the Reserve Fund after completion of the Project will be transferred to the Payment Fund.

Notwithstanding anything in the Indenture to the contrary, at the option of the City, amounts required to be held in the Reserve Fund may be withdrawn, in whole or in part, upon the deposit of a Credit Facility with the Trustee, in a stated amount equal to the amounts so withdrawn, provided, that prior to the deposit of such Credit Facility, each of the Rating Agencies then rating the Bonds shall be notified of such proposed withdrawal and the deposit of such Credit Facility shall not result in a withdrawal or downgrading of any rating of the Bonds then in effect by each of the Rating Agencies then rating the Bonds. Any such withdrawn moneys shall be transferred, at the election of the City, to the Acquisition Fund, to the Redemption Account in the Payment Fund, to the Principal Account in the Payment Fund or to a special account to be established for the payment of any fees in connection with obtaining such Credit Facility.

Rebate Fund. To the extent required by the Tax Certificate, certain amounts made available by the Authority pursuant to a Written Request of the City will be deposited by the Trustee in the Rebate Fund and thereafter paid to the federal government of the United States of America to the extent required to satisfy the Rebate Requirement (as defined in the Tax Certificate). None of the City, the Authority, the Trustee nor the Owners of the Bonds will have any right in or claim to such money. Any moneys remaining in the Rebate Fund after payment or prepayment of all of the Bonds and payment and satisfaction of any Rebate Requirement, after payment of all fees and expenses of the Trustee, will be remitted to the City.

Investment of Moneys in Funds and Accounts. Moneys in the Acquisition Fund will be accounted for by the Auditor and Comptroller and invested by the Treasurer in any legally permitted investment, including but not limited to the pooled investment fund of the Treasurer. Moneys in the Payment Fund, and any accounts therein will, upon the Written Request of the City, be invested by the Trustee in Permitted Investments. In the absence of a Written Request of the City, the Trustee may invest moneys in such funds and accounts in Permitted Investments described in clause (x) of the definition of Permitted Investments. The obligations in which moneys in the said funds and accounts are invested will mature prior to the date on which such moneys are estimated to be required to be paid out under the Indenture; provided that with respect to the Reserve Fund, such obligations will mature no later than ten years from the date of the purchase. Prior to the completion of the acquisition, construction, installation and improvement of the Project, any interest, income or profits from the deposits or investments of all funds and accounts (except the Rebate Fund) will be retained in such fund or account, except that interest, income and profits from the deposits or investments of the Reserve Fund will be deposited in the Interest Account of the Payment Fund so long as amounts on deposit in the Reserve Fund are at least equal to the Reserve Requirement. After the completion of the acquisition, construction, installation and

improvement of the Project, any interest, income or profits from the deposits or investments of all funds and accounts (except the Rebate Fund) will be deposited first to the Reserve Funds to the extent of any deficiency therein are less than the Reserve Requirement, and thereafter to the Interest Account of the Payment Fund.

Bond Insurance

The payment of the principal of and interest on the Insured 1993 Bonds when due will be insured by the Municipal Bond Insurance Policy to be issued by AMBAC Indemnity simultaneously with the delivery of the 1993 Bonds. See "BOND INSURANCE" in the Official Statement for a description of AMBAC Indemnity and payment pursuant to the Municipal Bond Insurance Policy.

Issuance of Additional Bonds

The Authority may by Supplemental Indenture issue Additional Bonds payable from the Revenues and secured by the pledge of the Revenues made under the Indenture equal to the pledge securing the Outstanding Bonds previously issued, but only upon compliance by the Authority with the provisions of the Indenture and any additional requirements set forth in such Supplemental Indenture and subject to the following specific conditions, which are conditions precedent to the issuance of any such Additional Bonds.

(a) The Authority will be in compliance with all agreements and covenants contained in the Indenture and all agreements and covenants contained in the Installment Purchase Agreement.

(b) The Authority will have satisfied the requirements relating to Additional Obligations in the Installment Purchase Agreement.

(c) The issuance of such Additional Bonds will have been authorized by the Authority and will have been provided for by Supplemental Indenture which shall specify the following:

(1) the purpose for which such Additional Bonds are to be issued; provided that such Additional Bonds shall be applied solely for the purpose of (i) financing or refinancing additional improvements to the Project, and/or (ii) refunding any Bonds then Outstanding;

(2) the authorized principal amount and designation of such Additional Bonds;

(3) the dated date and the maturity dates of, and the sinking fund payment dates, if any, the interest payment dates (which will be Interest Payment Dates) for such Additional Bonds;

(4) that such Additional Bonds will be issued only in Authorized Denominations;

(5) the redemption premiums, if any, and the redemption terms, if any, for such Additional Bonds;

(6) the amount, if any, to be deposited from the proceeds of sale of such Additional Bonds in the Interest Account;

(7) the amount, if any, to be deposited from the proceeds of sale of such Additional Bonds in the Acquisition Fund;

(8) the amount to be deposited from the proceeds of sale of such Additional Bonds in the Reserve Fund, which amount will be sufficient to cause the amount on deposit in the Reserve Account to equal the Reserve Requirement upon the issuance of such Additional Bonds;

(9) the forms of such Additional Bonds; and

(10) such other provisions as are necessary or appropriate and not inconsistent with the Indenture.

(d) The Installment Purchase Agreement will have been amended to increase the Installment Payments by the City thereunder by an amount at least sufficient to pay the interest on and principal of such Additional Bonds as the same become due.

Nothing contained in the Indenture will limit the issuance of any revenue bonds of the Authority payable from the Revenues and secured by a pledge of the Revenues if after the issuance and delivery of such revenue bonds none of the Bonds issued under the Indenture will be Outstanding.

Selected Covenants of the Authority

Punctual Payment and Performance. The Authority will punctually pay the interest on and the principal of and redemption premiums, if any, to become due on every Bond issued under the Indenture in strict conformity with the terms of the Indenture and of the Bonds, and will faithfully observe and perform all the agreements and covenants contained in the Indenture and in the Bonds.

Tax Covenants. The Authority will not use or permit any proceeds of the 1993 Bonds or any funds of the Authority, directly or indirectly, to acquire any securities or obligations, and will not take or permit to be taken any other action or actions, which would cause any 1993 Bonds to be an "arbitrage bond" within the meaning of the Code or "federally guaranteed" within the meaning of Section 149(b) of the Code and any such applicable regulations promulgated from time to time thereunder and under Section 103(c) of the Internal Revenue Code of 1986, as amended. The Authority will observe and not violate the requirements of Section 148 of the Code and any such applicable regulations. The Authority will comply with all requirements of Sections 148 and 149(b) of the Code to the extent applicable to the 1993 Bonds.

The Authority will not use or permit the use of any proceeds of the 1993 Bonds or any funds of the Authority, directly or indirectly, in any manner, and will not take or omit to take any action that would cause any of the 1993 Bonds to be treated as an obligation not described in Section 103(a) of the Code.

Notwithstanding any provisions of the Indenture, if the Authority provides to the Trustee an opinion of Bond Counsel to the effect that any specified action required under the Indenture is no longer required or that some further or different action is required to maintain the exclusion from gross income for federal income tax purposes of interest with respect to the 1993 Bonds, the Trustee, the Authority and the City may conclusively rely on such opinion in complying with the requirements of the Indenture and the covenants under the Indenture will be deemed to be modified to that extent.

Eminent Domain. If the whole of the Project or so much as to render the remainder unusable for the purposes for which it was used or intended to be used by the City will be taken under the power of eminent domain, the term of the Installment Purchase Agreement will cease as of that day that possession will be taken. The Authority will take or cause to be taken such action as is reasonably necessary to obtain compensation at least equal to the value of the Project or portion thereof taken by eminent domain. If less than the whole of the Project is taken under the power of eminent domain and the remainder is usable for the purposes for which it was used by the City at the time of such taking, then the Installment Purchase Agreement will continue in full force and effect as to such remainder, and the parties thereto waive the benefits of any law to the contrary. So long as any of the Bonds shall be Outstanding, the net proceeds of any award made in eminent domain proceedings for taking the Project or any portion thereof will be transferred to the Payment Fund. Any such award made after all of the Bonds have been fully paid and retired will be paid to the City.

Accounting Records and Reports. The Authority will keep or cause to be kept proper books of record and accounts in which complete and correct entries will be made of all transactions relating to the receipts, disbursements, allocation and application of the Revenues, and such books will be available for inspection by the Trustee, at reasonable hours and under reasonable conditions. Not more than two hundred seventy (270) days after the close of each Fiscal Year, the Authority will furnish or cause to be furnished to the Trustee a complete financial statement covering receipts, disbursements, allocation and application of Revenues for such Authority Fiscal Year, and including a profit and loss statement and balance sheet. The Authority will also keep or cause to be kept such other information as is required under the Tax Certificate.

The City's Budget. The Authority will supply to the Trustee, as soon as practicable after the beginning of each Fiscal Year, a Certificate of the City certifying that the City has made adequate provision in its annual budget for such Fiscal Year for the payment of all installments due under the Installment Purchase Agreement in such Fiscal Year. If the amounts so budgeted are not adequate for the payment of all installments due under the Installment Purchase Agreement in such Fiscal Year, the Authority will take such action as may be necessary and within its power to cause such annual budget to be amended, corrected or augmented so as to include therein the amounts required to be paid by the City in such Fiscal Year for the payment of all installments due under the Installment Purchase Agreement in such Fiscal Year, and will notify the Trustee of the proceedings then taken or proposed to be taken by the Authority.

Installment Purchase Agreement and Other Documents. The Authority will at all times maintain and vigorously enforce all of its rights under the Installment Purchase Agreement, and will promptly collect all installments due for the purchase of the Project as the same become due under the Installment Purchase Agreement, and will promptly and vigorously enforce its rights against any person who does not pay such installments as they become due under the Installment Purchase Agreement. The Authority will not do or permit anything to be done, or omit or refrain from doing anything, in any case where any such act done or permitted to be done, or any such omission of or refraining from action, would or might be a ground for cancellation or termination of the Installment Purchase Agreement by the purchaser thereunder.

Other Liens. The Authority will keep the Project free from judgements, mechanics' and materialmen's liens (except those arising from the acquisition, construction and installation of the Project) and free from all liens, claims, demands and encumbrances of whatsoever prior nature or character to the end that the security for the Bonds provided in the Indenture will at all times be maintained and preserved free from any claim or liability which, in the judgment of the Trustee, might hamper the Authority in conducting its business or interfere with the City's operation of the Project, and the Trustee at its option may (but will not be obligated to) defend against any and all actions or proceedings in which the validity of the Indenture is or might be questioned, or may pay or compromise any claim or demand asserted in any such action or proceeding; provided, however, that in defending such actions or proceedings or in paying or compromising such claims or demands the Trustee will not in any event be deemed to have waived or released the Authority from liability for or on account of any of its agreements and covenants contained in the Indenture, or from its liability to defend the validity of the Indenture and the pledge of the Revenues made therein and to perform such agreements and covenants. Nothing in the Indenture will preclude the City, or require the Authority to prevent, the operation or transfers of the Project as permitted under the Installment Purchase Agreement.

Acquisition and Construction of the Project and Sale of the Project. The Authority will acquire and construct the Project, or cause the Project to be acquired and constructed, with moneys in the Acquisition Fund and will sell the Project to the City pursuant to the Installment Purchase Agreement.

The Trustee

Appointment and Acceptance of Duties. Pursuant to the Indenture, the Trustee accepts and agrees to the trusts created by the Indenture, to all of which the Authority agrees and the respective Owners of the Bonds, by their purchase and acceptance thereof, agree.

Duties, Immunities and Liabilities of Trustee. The Trustee will, prior to an event of default under the Indenture, and after the curing of all events of default which may have occurred, perform such duties and only such duties as are specifically set forth in the Indenture and no implied duties or obligations will be read into the Indenture against the Trustee. The Trustee will, during the existence of any event of default (which has not been cured), exercise such of the rights and powers vested in it by the Indenture, and use the same degree of care and skill in their exercise as a prudent person would exercise or use under the circumstances in the conduct of his own affairs.

So long as no event of default under the Indenture has occurred and is continuing, the Authority, with the consent of AMBAC Indemnity, may remove the Trustee at any time and will remove the Trustee if at any time requested to do so by AMBAC Indemnity for any breach of the trust set forth in the Indenture, or by an instrument in writing signed by the Owners of not less than a majority in aggregate principal amount of the Bonds then Outstanding or if at any time the Trustee will cease to be a trust company or bank having the powers of a trust company, having a corporate trust office in California, having a combined capital and surplus of $100,000,000, and subject to supervision or examination by federal or state authority, or will become incapable of acting, or will commence a case under any bankruptcy, insolvency or similar law, or a receiver of the Trustee or of its property will be appointed, or any public officer will take control or charge of the Trustee or its property or affairs for the purpose of rehabilitation, conservation or liquidation, in each case by giving written notice of such removal to the Trustee, and thereupon will appoint a successor Trustee by an instrument in writing, but any successor trustee must be a trust company or bank having the powers of a trust company, having a corporate trust office in California, having a combined capital and surplus of $100,000,000 and acceptable to AMBAC Indemnity, and subject to supervision or examination by federal or state authority.

The Trustee may resign by giving prior written notice of such resignation to the Authority and AMBAC Indemnity, and by giving notice of such resignation by mail, first class postage prepaid, to the Owners at the addresses listed in the bond register. Upon receiving such notice of resignation, the Authority will promptly appoint a successor Trustee by an instrument in writing.

Any removal or resignation of the Trustee and appointment of a successor Trustee will become effective upon acceptance of appointment by the successor Trustee. If no successor Trustee will have been appointed and will have accepted appointment within 45 days of giving notice of removal or notice of resignation as aforesaid, the resigning Trustee, at the expense of the Authority, or any Owner (on behalf of himself and all other Owners) may petition any court of competent jurisdiction for the appointment of a successor Trustee.

Amendment of the Indenture

The Indenture and the rights and obligations of the Authority and of the Owners may be amended at any time by a Supplemental Indenture which will become binding when the written consents of AMBAC Indemnity and the Owners of at least 60% in aggregate principal amount of the Bonds then Outstanding, exclusive of Bonds disqualified as provided in the Indenture, are filed with the Trustee. No such amendment will (a) extend the maturity of or reduce the interest rate on or otherwise alter or impair the obligation of the Authority to pay the interest on or principal of or redemption premium, if any, on any Bond at the time and place and at the rate and in the currency provided in the Indenture without the express written consent of the Owner of such Bond, or (b) permit the creation by the Authority of any pledge of the Revenues superior to or on a parity with the pledge created thereby for the benefit of the Bonds, or (c) increase the dollar amount of the Bonds, or (d) modify any rights or obligations of the Trustee without its prior written assent thereto.

The Indenture and the rights and obligations of the Authority and of the Owners may also be amended at any time by a Supplemental Indenture which will become binding upon adoption without the consent of any Owners (but with the consent of AMBAC Indemnity), but only to the extent permitted by law and after receipt of an approving opinion of Bond Counsel, but only for any one or more of the following purposes: (a) to make such provisions for the purpose of curing any ambiguity or of correcting, curing or supplementing any defective provision contained in the Indenture in regard to questions arising thereunder which the Authority may deem desirable or necessary and not inconsistent therewith and which will not adversely affect the interests of the Owners; (b) to make any other change or addition to the Indenture which will not materially adversely affect the interests of the Owners, or to surrender any right or power reserved therein to or conferred therein on the Authority; or (c) to provide for the issuance of any Additional Bonds and to provide the terms of such Additional Bonds, subject to the conditions and upon compliance with the procedure set forth in the Indenture.

Events of Default and Remedies of Owners

The following will be events of default under the Indenture:

(a) failure in the due and punctual payment of the interest on any Bond when and as the same will become due and payable;

(b) failure in the due and punctual payment of the principal of or redemption premium, if any, on any Bond when and as the same will become due and payable, whether at maturity as therein expressed or by proceedings for redemption;

(c) failure by the Authority in the performance of any of the other agreements or covenants required on its part contained in the Indenture, and such default has continued for a period of 60 days after the Authority has been given written notice of such default by the Trustee or by a Credit Facility provider or to the Authority and the Trustee by Owners of not less than 25% of the Bonds;

(d) if any event of default will have occurred and be continuing under the Installment Purchase Agreement; or

(e) if the Authority files a petition or answer seeking arrangement or reorganization under the federal bankruptcy laws or any other applicable law of the United States of America or any state therein, or if a court of competent jurisdiction approves a petition filed with or without the consent of the Authority seeking arrangement or reorganization under the federal bankruptcy laws or any other applicable law of the United States of America or any state therein, or if under the provisions of any other law for the relief or aid of debtors any court of competent jurisdiction will assume custody or control of the Authority or of the whole or any substantial part of its property.

If an event of default has occurred and is continuing, the Trustee may, with the consent of AMBAC Indemnity, or shall, at the direction of AMBAC Indemnity, or upon the written request of the Owners of not less than 25% in aggregate principal amount of the Bonds then Outstanding, with the consent of AMBAC Indemnity, by written notice to the Authority and AMBAC Indemnity, shall declare the principal of all Bonds then Outstanding and the interest accrued thereon to be due and payable immediately, and upon any such declaration the same will become due and payable.

In addition, the Trustee in its discretion may, and at the written request of the Owners of not less than 25% in aggregate principal amount of Bonds Outstanding or any provider of a then existing Credit Facility, and upon being indemnified to its satisfaction therefor, will proceed to enforce all rights of the Owners and require the Authority to enforce all rights of the Owners of the Bonds under the Indenture, the Bonds or any law by whatever appropriate judicial proceeding or proceedings the Trustee deems most effectual.

Anything in the Indenture to the contrary notwithstanding, subject to the consent of AMBAC Indemnity and to the limitations and restrictions as to the rights of the Owners, upon the happening and continuance of any event of default under the Indenture, the Owners of not less than 25% in aggregate principal amount of the Bonds then Outstanding will have the right upon providing the Trustee security and indemnity reasonably satisfactory to it, to direct the method and place of all remedial proceedings to be taken by the Trustee under the Indenture. The Trustee may refuse to follow any direction that conflicts with law or the Indenture or that the Trustee determines is prejudicial to rights of other Owners or would subject the Trustee to personal liability. No Owner of any of the Bonds will have any right to institute any proceeding for the enforcement of any trust under the Indenture, or any other remedy thereunder or on said Bonds, unless such Owner previously has given to the Trustee written notice of an event of default and unless the Owners of not less than 25% in aggregate principal amount of the Bonds then Outstanding will have made written request of the Trustee to institute any such proceeding or other remedy, after the right to exercise such powers will have accrued, and will have afforded the Trustee a reasonable opportunity either to proceed to exercise the powers in the Indenture granted, or to institute such action, suit or proceeding in its or their name; nor unless there also will have been offered to the Trustee security and indemnity satisfactory to it against the costs, expenses and liabilities to be incurred therein or thereby, and the Trustee will not have complied with such request within a reasonable time.

Consent of AMBAC Indemnity Upon Default

Anything in the Indenture to the contrary notwithstanding, upon the occurrence and continuance of an event of default under the Indenture, AMBAC Indemnity will be entitled to control and direct the enforcement of all rights and remedies granted to (1) the Owners of the Insured 1993 Bonds or (2) the Trustee for the benefit of such Owners under the Indenture, including, without limitation: (i) the right to accelerate the principal of the Bonds as described in the Indenture and (ii) the right to annul any declaration of acceleration and AMBAC Indemnity will also be entitled to approve all waivers of events of default.

Notwithstanding any other provision of the Indenture, the Authority will immediately notify AMBAC Indemnity if at any time there are insufficient moneys to make any payments of principal and/or interest as required and immediately upon the occurrence of any event of default under the Indenture and shall provide such additional information as AMBAC Indemnity shall reasonably request.

Defeasance

If the Authority pays or causes to be paid or there is otherwise paid to the Owners of all Outstanding Bonds the interest thereon and the principal thereof and the redemption premiums, if any, thereon at the times and in the manner stipulated therein, then the Owners of such Bonds will cease to be entitled to the pledge of the Revenues as provided in the Indenture, and all agreements, covenants and other obligations of the Authority to the Owners of such Bonds thereunder will thereupon cease, terminate and become void and be discharged and satisfied.

Subject to the provisions of the above paragraph, when any of the Bonds shall have been paid and the Authority has kept, performed and observed all the covenants and promises in such Bonds and in the Indenture required to be kept, performed and observed by the Authority or on its part on or prior to that time, then the Indenture will be considered to have been discharged in respect of such Bonds and such Bonds will cease to be entitled to the lien of the Indenture and such lien and all covenants, agreements and other obligations of the Authority under the Indenture will cease, terminate become void and be completely discharged as to such Bonds.

Any Outstanding Bonds will prior to the maturity date or redemption date thereof be deemed to have been paid if (1) in case any of such Bonds are to be redeemed on any date prior to their maturity date, the Authority shall have given to the Trustee in form satisfactory to it irrevocable instructions to mail, on a date in accordance with the provisions of the Indenture notice of redemption of such Bonds on said redemption date, said notice to be given in accordance with the Indenture, (2) there shall have been deposited with the Trustee either (A) money in an amount which shall be sufficient or (B) Federal Securities of which are not subject to redemption prior to maturity except by the holder thereof (including any such Permitted Investments issued or held in book-entry form on the books of the Department of Treasury of the United States of America) and/or Pre-Refunded Municipals, the interest on and principal of which when due, and without any reinvestment thereof, will provide money which, together with the money, if any, deposited with the Trustee at the same time, shall, as verified by an independent certified public accountant, be sufficient, to pay when due the interest to become due on such Bonds on and prior to the maturity date or redemption date thereof, as the case may be, and the principal of and redemption premiums, if any, on such Bonds, and (3) in the event such Bonds are not by their terms subject to redemption within the next succeeding 60 days, the Authority will have given the Trustee in form satisfactory to it irrevocable instructions to mail as soon as practicable, a notice to the Owners of such Bonds and to the Securities Depositories and the Information Services that the deposit required by clause

contained in the Installment Purchase Agreement or any duty, liability or obligation arising out of or connected therewith or the insolvency, or bankruptcy, or liquidation of the Authority, or any force majeure, including but not limited to, acts of God or acts or regulations of governmental authorities.

The City will faithfully observe and perform all the agreements, conditions, covenants and terms contained in the Installment Purchase Agreement, including Supplements, and any Issuing Instrument or Qualified Swap Agreement relating to Parity Obligations required to be observed and performed by it and each of the agreements, conditions, covenants and terms contained in each such contract and agreement is an essential and material term of the purchase of and payment for each Component by the City pursuant to, in accordance with, and as authorized under the Law.

Against Encumbrances, Sale or Competitive Facilities. The City will not make any pledge of or place any lien on the Net System Revenues except as otherwise provided in the Installment Purchase Agreement. The City will not sell, lease or otherwise dispose of the Wastewater System or any part thereof essential to the proper operation of the Wastewater System or to the maintenance of the System Revenues, except as provided in the Installment Purchase Agreement. The City will not enter into any agreement or lease which impairs the operation of the Wastewater System or any part thereof necessary to secure adequate Net System Revenues for the payment of the Parity Obligations or which would otherwise impair the rights of the Authority with respect to the System Revenues or the operation of the Wastewater System.

Except as permitted under the Installment Purchase Agreement, the City will not, to the extent permitted by existing law, construct, acquire, maintain or operate and will not, to the extent permitted by existing law and within the scope of its powers, permit any other public or private agency, corporation, district or political subdivision or any person whomsoever to acquire, construct, maintain or operate within the City any wastewater system competitive with the City's Wastewater System.

Transfer of Metropolitan System Components. Notwithstanding anything to the contrary in the Installment Purchase Agreement, the City may transfer ownership of substantially all of the Metropolitan System, including amounts in the Sewer Revenue Fund attributable to the Metropolitan System, and any amounts in the Rate Stabilization Fund agreed upon by the City and the transferee as being attributable to the Metropolitan System, to the District or any other governmental agency whose primary purpose is to provide wastewater treatment and disposal service, provided such entity agrees to assume all Obligations the proceeds of which were used to acquire Components which are part of the Metropolitan System and all other obligations relating to the Metropolitan System which are payable from Metropolitan System Revenues, Net Metropolitan System Revenues, System Revenues or Net System Revenues, including but not limited to salaries and benefits payable to employees who are to become employees of such entity, all accounts payable, Qualified Swap Agreements, Credit Provider Reimbursement Obligations and all other obligations with respect thereto such as capital improvement expenditure obligations and tort claims, and the obligation to pay fines, penalties or damages arising out of or relating to violation of federal, state or local laws or regulations which are applicable or purported to be applicable to the operation of the Metropolitan System and provided that the following conditions are met:

(a) there will not have occurred and be continuing an event of default under the terms of the Installment Purchase Agreement, or any other Issuing Instrument or Qualified Swap Agreement or any Termination Event (as defined in a Qualified Swap Agreement) under any Qualified Swap Agreement;

(b) there will have been delivered to the Trustee an opinion of Bond Counsel to the effect that the proposed transfer will not have an adverse effect on the exclusion from gross income for federal income tax purposes of the interest component of Tax-Exempt Installment Payment Obligations;

(c) the entity will have obtained all necessary licenses, permits and consents from all governmental agencies or authorities having or asserting jurisdiction over the activities of Metropolitan System;

(d) there will be delivered to all trustees for any Obligations and to any Qualified Swap Provider an opinion of counsel, who may be the City Attorney of the City, to the effect that the Supplements referred to in clauses (h)(1) and (h)(2) below are valid, binding and enforceable against the transferee in the case of a Supplement referred to in clause (h)(1) below and against the City in the case of a Supplement referred to in a clause (h)(2) below;

(e) the City obtains or provides a certificate prepared by a Consultant showing that (i) the estimated Net Metropolitan System Revenues for the next 12 months following the date of transfer will be at least equal to 1.20 times the Maximum Annual Debt Service for all Outstanding Parity Obligations to be assumed by the transferee, assuming for this purpose that the Outstanding Parity Obligations to be assumed by the transferee will include such Obligations; and (ii) the estimated Net Municipal System Revenues for the next 12 months following the date of transfer will be at least equal to 1.20 times the Maximum Annual Debt Service for all Outstanding Parity Obligations not to be assumed by the transferee, assuming for this purpose that the Outstanding Parity Obligations not to be assumed by the transferee will include all such Obligations;

(f) there will be delivered to the Trustee a notice of each of the Rating Agencies then providing ratings on all Obligations to be outstanding immediately after the transfer, reconfirming the ratings on all such Obligations in effect immediately prior to such transfer, or alternatively, all such obligations will be defeased or paid in full prior to such transfer;

(g) there will be delivered to each Owner notice of the intended transfer of Metropolitan System Components not less than 30 nor more than 60 days prior to the expected transfer date; and

(h) incident to a transfer of the Metropolitan System permitted by the Installment Purchase Agreement:

(1) the transferee will execute and deliver to the Trustee a Supplement which will contain the following:

(A) the assumption and indemnification by the transferee of all obligations of the City under the Installment Purchase Agreement, but only as they relate to the Metropolitan System, including Obligations the proceeds of which were used to acquire Components for the Metropolitan System;

(B) a pledge by the transferee of Net Metropolitan System Revenues for the payment of assumed Parity Obligations which will be in substantially the same form as the pledge of the City under the Installment Purchase Agreement of Net System Revenues to secure the payment of all Parity Obligations;

(C) representations of the transferee substantially in the form provided by the City under the Installment Purchase Agreement, but only as to the Obligations assumed by the transferee and the covenants to be contained in such Supplement;

(D) covenants of the transferee relating to the acquisition, construction and changes to the Project, but only as to the Components which are or are to be part of the Metropolitan System;

(E) covenants of the transferee relating to Purchase Payments and Installment Payments, but only as they relate to Parity Obligations being assumed by the transferee and the Net Metropolitan System Revenues;

(F) covenants of the transferee relating to the allocation of System Revenues, but limited only to Parity Obligations assumed by the transferee and moneys deposited from Metropolitan System Revenues and Net Metropolitan System Revenues;

(G) covenants of the transferee relating to Additional Obligations, but only within respect to Parity Obligations payable from Net Metropolitan System Revenues (for this purpose the calculations and coverages contemplated thereby will relate only to Metropolitan System Revenues, Maintenance and Operations Costs of the Metropolitan System and Net Metropolitan System Revenues);

(H) covenants of the transferee substantially in the form provided by the City under the Installment Purchase Agreement, (exclusive of covenants relating to the transfer of the Metropolitan System and subcontracting), but only to the extent of the Metropolitan System and Installment Payment Obligations payable from Metropolitan System Revenues and Net Metropolitan System Revenues and Installment Payment Obligations assumed by or of the transferee.

(I) events of default and remedies substantially in the form set forth in the Installment Purchase Agreement, but only relating to Parity Obligations assumed by the transferee; and

(J) covenants of the transferee relating to benefits of the Installment Purchase Agreement amendments of the Installment Purchase Agreement and the effective date, but only with respect to Parity Obligations assumed by the transferee;

(2) the City will execute and deliver a Supplement which will reaffirm all of the City's representations and warranties under the Installment Purchase Agreement and each Supplement, the pledge provided for in, and each of the covenants of the City contained in the Installment Purchase Agreement or any Supplement, provided that such representations, warranties, pledges and covenants will be limited solely and exclusively to the Municipal System, Municipal System Revenues, Maintenance and Operations Costs of the Municipal System and Net Municipal System Revenues, as the case may be.

Upon execution and delivery of the such Supplements and upon satisfaction of the conditions specified above, the City will be relieved and discharged from any and all Installment Payment Obligations payable from Net System Metropolitan Revenues and which have been assumed by a transferee.

Maintenance and Operation of the Wastewater System; Budgets. The City will maintain and preserve the Wastewater System in good repair and working order at all times and will operate the Wastewater System in an efficient and economical manner and will pay all Maintenance and Operation Costs of the Wastewater System as they become due and payable. The City will adopt and file with the Authority, on or before the effective date of the Installment Purchase Agreement, a budget approved by the City Council of the City setting forth the estimated Maintenance and Operation Costs of the Wastewater System for the period from such date until the close of the then current Fiscal Year. On or before August 1, of each Fiscal Year, the City will adopt, and on or before 120 days after the beginning of the Fiscal Year, file with the Authority a budget approved by the City Council of the City setting forth the estimated Maintenance and Operation Costs of the Wastewater System for such Fiscal Year. Any budget may be amended at any time during any Fiscal Year and such amended budget will be filed by the City with the Authority.

Amount of Rates and Charges; Rate Stabilization Fund. The City will fix, prescribe and collect rates and charges for the Wastewater Service which will be at least sufficient (a) to pay all Obligations, (other than Parity Obligations), and (b) to yield during each Fiscal Year Net System Revenues equal to one hundred twenty percent (120%) of the Debt Service for such Fiscal Year. The City may make adjustments from time to time in such rates and charges and may make such classification thereof as it deems necessary, but shall not reduce the rates and charges then in effect unless the Net System Revenues from such reduced rates and charges will at all times be sufficient to meet the requirements of the Installment Purchase Agreement.

The City may establish, as a fund within the Sewer Revenue Fund, a fund denominated the Rate Stabilization Fund. From time to time the City may deposit into the Rate Stabilization Fund, from current System Revenues, such amounts as the City shall determine and the amount of available current System Revenues shall be reduced by the amount so transferred. Amounts may be transferred from the Rate Stabilization Fund solely and exclusively to pay Maintenance and Operation Costs of the Wastewater System, and any amounts so transferred will be deemed System Revenues when so transferred. All interest or other earnings upon amounts in the Rate Stabilization Fund may be withdrawn therefrom and accounted for as System Revenues.

Insurance. The City will procure and maintain or cause to be procured and maintained insurance on the Wastewater System with responsible insurers, or provide self insurance reserves, in such amounts and against such risks (including accident to or destruction of the Wastewater System) as are usually covered in connection with wastewater systems similar to the Wastewater System. In the event of any damage to or destruction of the Wastewater System caused by the perils covered by such insurance or self insurance, the Net Proceeds thereof will be applied to the reconstruction, repair or replacement of the damaged or destroyed portion of the Wastewater System. The City will pay out of such Net Proceeds all costs and expenses in connection with such reconstruction, repair or replacement so that the same will be completed and the Wastewater System will be free and clear of all claims and liens unless the City determines that such property or facility is not necessary to the efficient operation of the Wastewater System and therefore determines not to reconstruct, repair or replace such project or facility. If such Net Proceeds exceed the costs of such reconstruction, repair or replacement, then the excess Net Proceeds will be deposited in the Sewer Revenue Fund and be available for other proper uses of funds deposited in the Sewer Revenue Fund.

The City will procure and maintain such other insurance which it will deem advisable or necessary to protect its interests and the interests of the Authority, which insurance will afford protection in such amounts and against such risks as are usually covered in connection with wastewater systems similar to the Wastewater System; provided that any such insurance may be maintained under a self-insurance program so long as such self-insurance is maintained in the amounts and manner usually maintained in connection with wastewater systems similar to the Wastewater System and is, in the opinion of an accredited actuary, actuarially sound.

All policies of insurance required to be maintained in the Installment Purchase Agreement will, to the extent reasonably obtainable, provide that the Authority and the Trustee will be given 30 days' written notice of any intended cancellation thereof or reduction of coverage provided thereby.

Accounting Records: Financial Statements and Other Reports. The City will keep appropriate accounting records in which complete and correct entries will be made of all transactions relating to the Wastewater System, which records will be available for inspection by the Authority and the Trustee at reasonable hours and under reasonable conditions.

The City will prepare and file with the Authority and the Trustee annually after the close of each Fiscal Year (commencing June 30, 1994), the following:

(1) within 270 days financial statements of the Sewer Revenue Fund for the preceding Fiscal Year prepared in accordance with generally accepted accounting principles, together with an Accountant's Report thereon;

(2) within 45 days, a detailed report as to all insurance policies maintained and self-insurance programs maintained by the City with respect to the Wastewater System as of the close of such Fiscal Year, including the names of the insurers which have issued the policies and the amounts thereof and the property or risks covered thereby; and

(3) the City will furnish a copy of the financial statements referred to above to any Owner of the Bonds requesting a copy thereof.

Payment of Taxes and Compliance with Governmental Regulations. The City will pay and discharge all taxes, assessments and other governmental charges which may be lawfully imposed upon the Wastewater System or any part thereof or upon the System Revenues when the same will become due. The City will duly observe and conform with all valid regulations and requirements of any governmental authority relative to the operation of the Wastewater System or any part thereof, but the City will not be required to comply with any regulations or requirements so long as the validity or application thereof will be contested in good faith.

Collection of Rates and Charges, No Free Service. The City will have in effect at all times rules and regulations for the payment of bills for Wastewater Services, and that such regulations will provide that where the City furnishes water to the property receiving Wastewater Service, the Wastewater Service charges shall be collected together with the water rates upon the same bill providing for a due date and a delinquency date for each bill. In each case where such bill remains unpaid in whole or in part after it becomes delinquent, the City may disconnect such premises from the water service, and such premises will not thereafter be reconnected to the water service except in accordance with City operating rules and regulations governing such situations of delinquency. The City will not permit any part of the

Wastewater System or any facility thereof to be used or taken advantage of free of charge by any corporation, firm or person, or by any public agency (including the United States of America, the State and any city, county, district, political subdivision, public corporation or agency of any thereof).

Eminent Domain Proceeds. If all or any part of the Wastewater System will be taken by eminent domain proceedings, then subject to the provisions of any Authorizing Ordinance, the Net Proceeds thereof will be applied to the replacement of the property or facilities so taken, unless the City determines that such property or facility is not necessary to the efficient operation of the Wastewater System and therefore determines not to replace such property or facilities. Any Net Proceeds of such award not applied to replacement or remaining after such work has been completed will be deposited in the Sewer Revenue Fund and be available for other proper uses of funds deposited in the Sewer Revenue Fund.

Tax Covenants. There shall be included in each Supplement relating to Tax-Exempt Installment Payment Obligations such covenants as are deemed necessary or appropriate by Bond Counsel for the purpose of assuring that interest on such Installment Payment Obligations shall be excluded from gross income under Section 103 of the Code.

Operate Wastewater System. The City will operate the Wastewater System in an efficient and economical manner, provided that the City may remove from the service on a temporary or permanent basis such part or parts of the Wastewater System so long as (a) Net System Revenues are equal to 120% of the Debt Service for the then current Fiscal Year and for each Fiscal Year thereafter to and including the Fiscal Year during which the last Installment Payment is due as evidenced by an engineer's report on file with the City, and (b) the City will have filed with the Trustee an opinion of nationally recognized bond counsel to the effect that the removal of such part or parts of the Wastewater System will not adversely affect the exclusion from gross income for federal income tax purposes of the interest on Tax-Exempt Installment Payment Obligations.

Prepayment of Installment Payments

Provisions may be made in any Supplement for the prepayment of Installment Payments, in whole or in part, in such multiples and in such order of maturity and from funds of any source, and with such prepayment premiums and other terms as are specified in the Supplement. Said Supplement shall also provide for any notices to be given relating to such prepayment.

Events of Default and Remedies of the Authority

The following will be "events of default" under the Installment Purchase Agreement:

(a) failure in the due and punctual payment of or on account of any Parity Obligation as the same will become due and payable;

(b) failure by the City in the performance of any of the agreements or covenants required to be performed by it in the Installment Purchase Agreement (other than as specified in (a) above), and such default will have continued for 60 days after the City has been given notice in writing of such default by the Authority;

(c) if any Event of Default specified in any Supplement, Authorizing Ordinance or Issuing Instrument shall have occurred and be continuing; or

(d) if the City files a petition or answer seeking arrangement or reorganization under the federal bankruptcy laws or any other applicable law of the United States of America or any state therein, or if a court of competent jurisdiction will approve a petition filed with or without the consent of the City seeking arrangement or reorganization under the federal bankruptcy laws or any other applicable law of the United States of America or any state therein, or if under the provisions of any other law for the relief or aid of debtors any court of competent jurisdiction will assume custody or control of the City or of the whole or any substantial part of its property;

then and in each case during the continuance of such event of default, the Authority shall upon the written request of the Owners of 25% or more of the aggregate principal amount of all Series of Parity Installment Obligations Outstanding, voting collectively as a single class, by written notice to the City, declare the entire unpaid principal amount thereof and the accrued interest thereon to be due and payable immediately, and upon any such declaration the same shall become immediately due and payable; provided, that with respect to a Series of Parity Installment Obligations which is credit enhanced by Credit Support, acceleration will not be effective unless the declaration is consented to by the related Credit Provider and, provided further, that nothing in the Installment Purchase Agreement shall affect the rights of the parties to a Qualified Swap Agreement to terminate such Qualified Swap Agreement. If at any time after the entire principal amount of all Series of Parity Installment Obligations and the accrued interest thereon have been so declared due and payable and before any judgment or decree for the payment of the moneys due shall have been obtained or entered, the City will deposit with the Authority a sum sufficient to pay the unpaid principal amount of all such Series of Parity Installment Obligations and the unpaid payments of any other Parity Obligations referred to in clause (a) above due prior to such declaration and the accrued interest thereon, with interest on such overdue installments, and the reasonable expenses of the Authority, and any and all other defaults known to the Authority, shall have been made good or cured to the satisfaction of the Authority or provision deemed by the Authority to be adequate shall have been made therefor, then the Authority, by written notice to the City, may rescind and annul such declaration and its consequences.

Discharge of Obligations

If (i) the City will pay or cause to be paid or there will otherwise be paid to the Owners all Outstanding Installment Payment Obligations of a Series the interest thereon and the principal thereof and the redemption premiums, if any, thereon or if all Outstanding Obligations will be deemed to have been paid at the times and in the manner stipulated in the applicable Issuing Instrument, and (ii) the transfer of ownership of substantially all of the Metropolitan System, as contemplated by the Installment Purchase Agreement will have occurred, then all agreements, covenants and other obligations of the City under the Installment Purchase Agreement will thereupon cease, terminate and become void and be discharged and satisfied except for the obligation of the City to pay or cause to be paid all sums due thereunder.

Amendments

The Installment Purchase Agreement may be amended with respect to a Series of Installment Payment Obligations in writing as may be mutually agreed by the City and the Authority, with the written consent of any Credit Provider which is providing insurance until the final maturity or payment in full of one or more maturities of such Installment Payment Obligations, or any other Credit Provider for such Installment Payment Obligations and the Owners of 60% or more in aggregate principal amount of such Installment Payment Obligations then Outstanding, provided that no such amendment will (i) extend the payment date of any Installment Payment, or reduce the amount of any Installment Payment without the prior written consent of the Owner of each Obligation so affect, (ii) reduce the percentage of Installment Payment Obligations the consent of the Owners of which is required for the execution of any amendment

of the Installment Purchase Agreement, or (iii) amend the provisions of transfer of the Metropolitan System Components without an unqualified opinion of nationally recognized Bond Counsel to the effect that such amendment does not adversely affect the exclusion of the interest portion of the Installment Payments received by the Owners of Tax-Exempt Installment Payment Obligations from gross income under Section 103 of the Code. Notwithstanding the foregoing, so long as the City has any obligations under a Qualified Swap Agreement, it will not amend or modify, or consent to the amendment or modification of, the Installment Purchase Agreement that would in any way adversely affect (A) the rights of a counterparty to a Qualified Swap Agreement under the Installment Purchase Agreement, or (B) the obligations of the City under the Installment Purchase Agreement to such a contrary without the prior written consent of such Qualified Swap Provider.

With the written consent of any Credit Provider, the Installment Purchase Agreement and the rights and obligations of the City and the Authority thereunder may also be amended, without the written consent of any Owner of Installment Obligations, but only to the extent permitted by law and only upon receipt of an unqualified opinion of nationally recognized Bond Counsel selected by the City and approved by the Authority to the effect that such amendment or supplement is permitted by the provisions of the Installment Purchase Agreement and is not inconsistent therewith and does not adversely affect the exclusion of the interest portion of the Installment Payments received by the Owners from gross income for federal tax purposes, and only (i) to add to the covenants and agreements of the Authority or the City or to surrender any reserved right or power to or conferred upon the Authority or the City, and which will not adversely affect the interests of the Owners of the Installment Payment Obligations; (ii) to cure, correct or supplement any ambiguous or defective provision, as the Authority or the City may deem necessary or desirable and which will not adversely affect the interests of the Owners of the Installment Payment Obligations; and (iii) to make such other amendments or modifications which will not materially adversely affect the interests of the Owners of the Installment Payment Obligations.

APPENDIX F

FORM OF CO-BOND COUNSEL OPINION

Orrick, Herrington & Sutcliffe
777 South Figueroa Street
Suite 3200
Los Angeles, California 90017

Arnelle & Hastie
455 Market Street
23rd Floor
San Francisco, California 94105

[Date of Issuance]

Public Facilities Financing Authority
of the City of San Diego
202 C Street
San Diego, California 92101

City of San Diego
202 C Street
San Diego, California 92101

Public Facilities Financing Authority
of the City of San Diego
Sewer Revenue Bonds
(Payable Solely from Installment Payments
Secured by Wastewater System Net Revenues)
Series 1993
(Final Opinion)

Ladies and Gentlemen:

We have acted as co-bond counsel in connection with the issuance by the Public Facilities Financing Authority of the City of San Diego (the "Authority") of $250,000,000 aggregate principal amount of its Sewer Revenue Bonds (Payable Solely from Installment Payments Secured by Wastewater System Net Revenues), Series 1993 (the "Bonds"), issued pursuant to an Indenture, dated as of September 1, 1993 (the "Indenture"), between the Authority and State Street Bank and Trust Company of California, N.A., as trustee (the "Trustee"). The Bonds are payable from installment payments payable by the City of San Diego (the "City") pursuant to an Installment Purchase Agreement, dated as of September 1, 1993 (the "Installment Purchase Agreement"), between the Authority and the City, under which the Authority sells to the City portions of a wastewater system. Capitalized terms not otherwise defined herein shall have the meanings set forth in the Indenture and the Installment Purchase Agreement.

In such connection, we have reviewed the Indenture, the Installment Purchase Agreement, the Tax Certificate, dated the date hereof (the "Tax Certificate"), certificates of the City, the Authority, the Trustee and others, opinions of the City Attorney with respect to the Authority and the City, and such other documents, opinions and matters to the extent we deemed necessary to render the opinions set forth herein.

Certain agreements, requirements and procedures contained or referred to in the Indenture, the Installment Purchase Agreement, the Tax Certificate and other relevant documents may be changed and certain actions (including, without limitation, defeasance of the Bonds) may be taken or omitted under the circumstances and subject to the terms and conditions set forth in such documents. No opinion is expressed herein as to any Bond or the interest thereon if any such change occurs or action is taken or omitted upon the advice or approval of counsel other than ourselves.

The opinions expressed herein are based on an analysis of existing laws, regulations, rulings and court decisions and cover certain matters not directly addressed by such authorities. Such opinions may be affected by actions taken or omitted or events occurring after the date hereof. We have not undertaken to determine, or to inform any person, whether any such actions are taken or omitted or events do occur. We disclaim any obligation to update this opinion. We have assumed the genuineness of all documents and signatures presented to us (whether as originals or as copies) and the due and legal execution and delivery thereof by, and validity against, any parties other than the Authority and the City. We have not undertaken to verify independently, and have assumed, the accuracy of the factual matters represented, warranted or certified in the documents referred to in the second paragraph hereof. Furthermore, we have assumed compliance with all covenants and agreements contained in the Indenture, the Installment Purchase Agreement and the Tax Certificate, including without limitation covenants and agreements compliance with which is necessary to assure that future actions, omissions or events will not cause interest on the Bonds to be included in gross income for federal income tax purposes. We call attention to the fact that the rights and obligations under the Bonds, the Indenture, the Installment Purchase Agreement and the Tax Certificate are subject to bankruptcy, insolvency, reorganization, arrangement, fraudulent conveyance, moratorium and other similar laws relating to or affecting creditors' rights, to the application of equitable principles, to the exercise of judicial discretion in appropriate cases and to the limitations on legal remedies against public entities in the State of California. We express no opinion with respect to any indemnification, contribution, choice of law, choice of forum or waiver provisions contained in the foregoing documents. Finally, we undertake no responsibility for the accuracy, completeness or fairness of the Official Statement or other offering material related to the Bonds and express no opinion with respect thereto.

Based on and subject to the foregoing, and in reliance thereon, as of the date hereof, we are of the following opinions:

1. The Bonds constitute the valid and binding limited obligations of the Authority.

2. The Bonds are special obligations of the Authority and are payable solely from Revenues (as such term is defined in the Indenture), which Revenues include Installment Payments pursuant to the Installment Purchase Agreement.

3. The Indenture and the Installment Purchase Agreement have been duly executed and delivered by, and constitute the valid and binding obligations of, the Authority. The Indenture creates a valid pledge, to secure the payment of the principal of and interest on the Bonds, of the

Revenues and any other amounts (including proceeds of the sale of the Bonds) held by the Trustee in any fund or account established pursuant to the Indenture, except the Rebate Fund, subject to the provisions of the Indenture permitting the application thereof for other purposes and on the terms and conditions set forth therein.

4. The Installment Purchase Agreement has been duly executed and delivered by, and constitutes the valid and binding obligation of, the City. The Installment Purchase Agreement creates a valid pledge of Net System Revenues to secure the payment of Installment Payments to the Authority, on the terms and conditions set forth therein.

5. Interest on the Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986 and is exempt from California personal income taxes. The difference, if any, between the initial offering price to the public (excluding bond houses and brokers) at which a substantial amount of the Bonds is sold and the amount payable at the maturity thereof constitutes "original issue discount" for purposes of federal income taxes and State of California personal income taxes. Original issue discount is treated as interest that is excluded from gross income for federal income tax purposes and is exempt from California personal income taxes to the extent properly allocable to each owner thereof. Interest (including original issue discount) on the Bonds is not a specific preference item for purposes of the federal individual or corporate alternative minimum taxes, although we observe that interest (including original issue discount) on the Bonds is included in adjusted current earnings when calculating corporate alternative minimum taxable income. We express no opinion regarding other tax consequences related to the ownership or disposition of, or the accrual or receipt of interest on, the Bonds.

Faithfully yours,

ORRICK, HERRINGTON & SUTCLIFFE

Respectfully submitted,

ARNELLE & HASTIE

APPENDIX G

SPECIMEN MUNICIPAL BOND INSURANCE POLICY,

AMBAC Municipal Bond Insurance Policy

AMBAC Indemnity Corporation
c/o CT Corporation Systems
44 East Mifflin St., Madison, Wisconsin 53703
Administrative Office.
One State Street Plaza, New York, NY 10004
Telephone: (212) 668-0340

Issuer:

Policy Number:

Bonds:

Premium:

SPECIMEN

AMBAC Indemnity Corporation (AMBAC) A Wisconsin Stock Insurance Company

in consideration of the payment of the premium and subject to the terms of this Policy, hereby agrees to pay to the United States Trust Company of New York, as trustee, or its successor (the "Insurance Trustee"), for the benefit of Bondholders, that portion of the principal of and interest on the above-described debt obligations (the "Bonds") which shall become Due for Payment but shall be unpaid by reason of Nonpayment by the Issuer.

AMBAC will make such payments to the Insurance Trustee within one (1) business day following notification to AMBAC of Nonpayment. Upon a Bondholder's presentation and surrender to the Insurance Trustee of such unpaid Bonds or appurtenant coupons, uncanceled and in bearer form and free of any adverse claim, the Insurance Trustee will disburse to the Bondholder the face amount of principal and interest which is then Due for Payment but is unpaid. Upon such disbursement, AMBAC shall become the owner of the surrendered Bonds and coupons and shall be fully subrogated to all of the Bondholders' rights to payment.

In cases where the Bonds are issuable only in a form whereby principal is payable to registered Bondholders or their assigns, the Insurance Trustee shall disburse principal to a Bondholder as aforesaid only upon presentation and surrender to the Insurance Trustee of the unpaid Bond, uncanceled and free of any adverse claim, together with an instrument of assignment, in form satisfactory to the Insurance Trustee, duly executed by the Bondholder or such Bondholder's duly authorized representative, so as to permit ownership of such Bond to be registered in the name of AMBAC or its nominee. In cases where the Bonds are issuable only in a form whereby interest is payable to registered Bondholders or their assigns, the Insurance Trustee shall disburse interest to a Bondholder as aforesaid only upon presentation to the Insurance Trustee of proof that the claimant is the person entitled to the payment of interest on the Bond and delivery to the Insurance Trustee of an instrument of assignment, in form satisfactory to the Insurance Trustee, duly executed by the claimant Bondholder or such Bondholder's duly authorized representative, transferring to AMBAC all rights under such Bond to receive the interest in respect of which the insurance disbursement was made. AMBAC shall be subrogated to all the Bondholders' rights to payment on registered Bonds to the extent of the insurance disbursements so made.

In the event the trustee or paying agent for the Bonds has notice that any payment of principal of or interest on a Bond which has become Due for Payment and which is made to a Bondholder by or on behalf of the Issuer of the Bonds has been deemed a preferential transfer and therefore recovered from its registered owner pursuant to the United States Bankruptcy Code in accordance with a final, nonappealable order of a court of competent jurisdiction, such registered owner will be entitled to payment from AMBAC to the extent of such recovery if sufficient funds are not otherwise available.

As used herein, the term "Bondholder" means any person other than the Issuer who, at the time of Nonpayment, is the owner of a Bond or of a coupon appertaining to a Bond. As used herein, "Due for Payment", when referring to the principal of Bonds, is when the stated maturity date or a mandatory redemption date for the application of a required sinking fund installment has been reached and does not refer to any earlier date on which payment is due by reason of call for redemption (other than by application of required sinking fund installments), acceleration or other advancement of maturity; and, when referring to interest on the Bonds, is when the stated date for payment of interest has been reached. As used herein, "Nonpayment" means the failure of the Issuer to have provided sufficient funds to the paying agent for payment in full of all principal of and interest on the Bonds which are Due for Payment.

This Policy is noncancelable. The premium on this Policy is not refundable for any reason, including payment of the Bonds prior to maturity. This Policy does not insure against loss of any prepayment or other acceleration payment which at any time may become due in respect of any Bond, other than at the sole option of AMBAC, nor against any risk other than Nonpayment.

In witness whereof, AMBAC has caused this Policy to be affixed with a facsimile of its corporate seal and to be signed by its duly authorized officers in facsimile to become effective as its original seal and signatures and binding upon AMBAC by virtue of the countersignature of its duly authorized representative.

President

AMBAC INDEMNITY CORPORATION CORPORATE SEAL WISCONSIN

Secretary

Effective Date:

Authorized Representative

UNITED STATES TRUST COMPANY OF NEW YORK acknowledges that it has agreed to perform the duties of Insurance Trustee under this Policy.

AMBAC

AMBAC Indemnity Corporation
c/o CT Corporation Systems
44 East Mifflin Street
Madison, Wisconsin 53703
Administrative Office:
One State Street Plaza
New York, New York 10004

Endorsement

Policy issued to:

Attached to and forming part of

Effective Date of Endorsement:

In the event that AMBAC Indemnity Corporation were to become insolvent, any claims arising under the Policy would be excluded from coverage by the California Insurance Guaranty Association, established pursuant to the laws of the State of California. Payments due under the Policy with respect to the Bonds, as defined in the Policy, may not be accelerated by the issuer of, the obligor on, or any trustee or paying agent for, the Bonds.

SPECIMEN

Nothing herein contained shall be held to vary, alter, waive or extend any of the terms, conditions, provisions, agreements or limitations of the above mentioned Policy other than as above stated.

In Witness Whereof, the Company has caused its Corporate Seal to be hereto affixed and these presents to be signed by its duly authorized officers in facsimile to become effective as its original seal and signatures and binding on the Company by virtue of countersignature by its duly authorized agent.

AMBAC Indemnity Corporation

President

AMBAC INDEMNITY CORPORATION
SEAL
WISCONSIN

Secretary

Authorized Representative

EXECUTION COPY

CONTINUING DISCLOSURE AGREEMENT

Relating to

$350,000,000
PUBLIC FACILITIES FINANCING AUTHORITY OF THE CITY OF SAN DIEGO
SEWER REVENUE BONDS, SERIES 1995

This Continuing Disclosure Agreement (the "Disclosure Agreement"), dated as of December 1, 1995, is executed and delivered by the City of San Diego (the "City") and State Street Bank and Trust Company of California, N.A. (the "Dissemination Agent") in connection with the issuance of $350,000,000 Public Facilities Financing Authority of the City of San Diego Sewer Revenue Bonds, Series 1995 (Payable Solely from Installment Payments Secured by Wastewater System Net Revenues) (the "Bonds"). The Bonds are being issued pursuant to an Indenture dated as of September 1, 1993 between the Public Facilities Financing Authority of the City of San Diego (the "Authority") and State Street Bank and Trust Company of California, N.A., as trustee (the "Trustee"), as amended by a First Supplemental Indenture dated as of May 1, 1994 and a Second Supplemental Indenture dated as of December 1, 1995 (the "Second Supplemental Indenture"), each between the Authority and the Trustee (collectively, the "Indenture"). Debt service on the Bonds will be paid from installment payments made by the City pursuant to a Master Installment Purchase Agreement dated as of September 1, 1993 between the Authority and the City, as amended by the 1993-1 Supplement dated as of September 1, 1993 and the 1995-1 Supplement dated as of December 1, 1995 (the "1995-1 Supplement") thereto, each between the City and the Authority (collectively, the "Installment Purchase Agreement"). Pursuant to Section 5.02 of the Second Supplemental Indenture and Section 5.02 of the 1995-1 Supplement, the City and the Dissemination Agent covenant and agree as follows:

SECTION 1. Purpose of the Disclosure Agreement. This Disclosure Agreement is being executed and delivered by the City and the Dissemination Agent for the benefit of the Owners and Beneficial Owners of the Bonds and in order to assist the Participating Underwriters in complying with the Rule (defined below). The City and the Dissemination Agent acknowledge that the Authority has undertaken no responsibility with respect to any reports, notices or disclosures provided or required under this Agreement, and has no liability to any person, including any Owner or Beneficial Owner of the Bonds, with respect to the Rule.

SECTION 2. Definitions. In addition to the definitions set forth in the Indenture, which apply to any capitalized term used in this Disclosure Agreement unless otherwise defined in this Section, the following capitalized terms shall have the following meanings:

"Annual Report" shall mean any Annual Report provided by the City pursuant to, and as described in, Sections 3 and 4 of this Disclosure Agreement.

"Beneficial Owner" shall mean any person which has or shares the power, directly or indirectly, to make investment decisions concerning of ownership of, any Bonds (including persons holding Bonds through nominees, depositories or other intermediaries).

"Bond Insurance Policy" shall mean the municipal bond new issue insurance policy issued by the Bond Insurer that guarantees payment of principal of and interest on the Bonds.

"Bond Insurer" shall mean Financial Guaranty Insurance Company, doing business in California as FGIC Insurance Company, a New York stock exchange company, or any successor thereto.

"Disclosure Representative" shall mean the Director of Financial Management of the City or his or her designee, or such other person as the City shall designate in writing to the Trustee from time to time.

"Dissemination Agent" shall mean State Street Bank and Trust Company of California, N.A., acting in its capacity as Dissemination Agent hereunder, or any successor Dissemination Agent designated in writing by the City which has filed with the Trustee a written acceptance of such designation.

"Listed Events" shall mean any of the events listed in Section 5(a) of this Disclosure Agreement.

"National Repository" shall mean any Nationally Recognized Municipal Securities Information Repository for purposes of the Rule. The National Repositories currently approved by the Securities and Exchange Commission are set forth in Exhibit B.

"Official Statement" shall mean the Official Statement dated December 6, 1995, relating to the Bonds.

"Participating Underwriter" shall mean any of the original underwriters of the Bonds required to comply with the Rule in connection with offering of the Bonds.

"Repository" shall mean each National Repository and the State Repository.

"Rule" shall mean Rule 15c2-12(b)(5) adopted by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as the same may be amended from time to time.

"State" shall mean the State of California.

"State Repository" shall mean any public or private repository or entity designated by the State as the state repository for the purpose of the Rule and recognized as such by the Securities and Exchange Commission. As of the date of this Agreement, there is no State Repository.

SECTION 3. Provision of Annual Reports.

(a) The City shall, or shall cause the Dissemination Agent to, not later than 270 days after the end of the City's fiscal year (presently June 30), commencing with the report for the 1995-96 Fiscal Year, provide to each Repository and the Bond Insurer an Annual Report which is consistent with the requirements of Section 4 of this Disclosure Agreement. In each case, the Annual Report may be submitted as a single document or as separate documents comprising a package, and may cross-reference other information as provided in Section 4 of this Disclosure Agreement; provided that the audited financial statements of the City may be submitted separately from the balance of the Annual Report and later than the date required above for the filing of the Annual Report if they are not available by that date. If the City's fiscal year changes, it shall give notice of such change in the same manner as for a Listed Event under Section 5(f).

(b) Not later than fifteen (15) Business Days prior to the date specified in subsection (a) for providing the Annual Report to the Repositories, the City shall provide the Annual Report to the Dissemination Agent and the Trustee (if the Trustee is not the Dissemination Agent). If by such date the Trustee has not received a copy of the Annual Report, the Trustee shall contact the City and the Dissemination Agent to determine if the City is in compliance with the first sentence of this subsection (b).

(c) If the Trustee is unable to verify that an Annual Report has been provided to the Repositories by the date required in subsection (a), the Trustee shall send a notice to each Repository and the Municipal Securities Rulemaking Board in substantially the form attached as Exhibit A.

(d) The Dissemination Agent shall:

(i) determine each year prior to the date for providing the Annual Report the name and address of each National Repository and the State Repository, if any; and

(ii) file a report with the City, the Authority and (if the Dissemination Agent is not the Trustee) the Trustee certifying that the Annual Report has been provided pursuant to this Disclosure Agreement, stating the date it was provided, and listing all the Repositories to which it was provided.

SECTION 4. Content of Annual Reports. The City's Annual Report shall contain or include by reference the following:

1. The audited financial statements of the City for the prior fiscal year, prepared in accordance with generally accepted accounting principles as promulgated from time to time by the Financial Accounting Standards Board or as otherwise required by applicable State law. If the City's audited financial statements are not available by the time the Annual Report is required to be filed pursuant to Section 3(a), the Annual Report shall contain unaudited financial statements in a format similar to the financial statements

contained in the final Official Statement, and the audited financial statements shall be filed in the same manner as the Annual Report when they become available.

2. An update of the information contained in Table 2 of the Official Statement for the most recently completed fiscal year.

3. An update of the information contained in Table 3 of the Official Statement for the most recently completed fiscal year (exclusive of the information contained under the column heading "Estimated Population").

4. An update of the information contained in Table 4 of the Official Statement for the most recently completed fiscal year.

5. An update of the information contained in Table 5 of the Official Statement for the most recently completed fiscal year.

6. An update of the information contained in Table 6 of the Official Statement for the five most recently completed fiscal years.

7. An update of the information contained in Table 7 of the Official Statement for the most recently completed fiscal year.

8. An update of the information contained in Table 8 of the Official Statement for the five most recently completed fiscal years.

9. An update of the information contained in Table 9 of the Official Statement for the five most recently completed fiscal years.

10. An update of the information contained in Table 10 of the Official Statement for the five most recently completed fiscal years.

11. An update of the information contained in Table 11 of the Official Statement for the five most recently completed fiscal years.

12. Information contained in Table 12 of the Official Statement will be available in the City's audited financial statements.

13. Information contained in Table 13 of the Official Statement will be available in Exhibit D of the City's audited financial statements.

14. Information contained in Table 14 of the Official Statement will be available in Schedules F-1 and F-2 of the City's audited financial statements.

15. An update of the information contained in the Official Statement under the heading "LABOR RELATIONS" for the most recently completed fiscal year.

16. An update of the information contained in the Official Statement in the third paragraph under the heading "PENSION PLAN" for the most recently completed fiscal year.

17. An update of the information contained in Table 15 of the Official Statement for the five most recently completed fiscal years.

18. An update of the information contained in the Official Statement under the heading "INVESTMENT OF FUNDS - Pool Liquidity and Other Characteristics" and contained in Table 16 of the Official Statement for the most recently completed fiscal year.

SECTION 5. Reporting of Significant Events.

(a) Pursuant to the provisions of this Section 5, the City shall give, or cause to be given, notice of the occurrence of any of the following events with respect to the Bonds, if material:

1. principal and interest payment delinquencies;

2. non-payment related defaults;

3. modifications to rights of Bondholders;

4. optional, contingent or unscheduled bond calls;

5. defeasances;

6. rating changes;

7. adverse tax opinions or events affecting the tax-exempt status of the Bonds;

8. unscheduled draws on debt service reserves reflecting financial difficulties.

9. unscheduled draws on credit enhancements reflecting financial difficulties;

10. substitution of credit or liquidity providers, or their failure to perform;

11. release, substitution or sale of property securing repayment of the Bonds.

(b) The Dissemination Agent shall, within one (1) Business Day of obtaining actual knowledge of the occurrence of any of the Listed Events contact the Disclosure Representative, inform such person of the event, and request that the City promptly notify the Dissemination Agent in writing whether or not to report the event pursuant to subsection (f).

(c) Whenever the City obtains knowledge of the occurrence of a Listed Event, because of a notice from the Dissemination Agent pursuant to subsection (b) or otherwise, the City shall as soon as possible determine if such event would be material under applicable federal securities laws.

(d) If the City has determined that knowledge of the occurrence of a Listed Event would be material under applicable federal securities laws, the City shall promptly notify the Dissemination Agent in writing. Such notice shall instruct the Dissemination Agent to report the occurrence pursuant to subsection (f).

(e) If in response to a request under subsection (b), the City determines that the Listed Event would not be material under applicable federal securities laws, the City shall so notify the Dissemination Agent in writing and instruct the Dissemination Agent not to report the occurrence pursuant to subsection (f).

(f) If the Dissemination Agent has been instructed by the City to report the occurrence of a Listed Event, the Dissemination Agent shall file a notice of such occurrence with the Municipal Securities Rulemaking Board and the Repositories with a copy to the City and the Bond Insurer. Notwithstanding the foregoing, notice of Listed Events described in subsections (a)(4) and (5) need not be given under this subsection any earlier than the notice (if any) of the underlying event is given to the Owners of affected Bonds pursuant to the Indenture.

SECTION 6. Termination of Reporting Obligation. The City's obligations under this Disclosure Agreement shall terminate upon the legal defeasance, prior redemption or payment in full of all of the Bonds, without giving effect to payments under the Bond Insurance Policy. If the City's obligations under the Installment Purchase Agreement are assumed in full by some other entity, such person shall be responsible for compliance with this Disclosure Agreement in the same manner as if it were the City and the original City shall have no further responsibility hereunder. If such termination or substitution occurs prior to the final maturity of the Bonds, the City shall give notice of such termination or substitution in the same manner as for a Listed Event under Section 5(f).

SECTION 7. Dissemination Agent. The City may, from time to time, appoint or engage a Dissemination Agent to assist it in carrying out its obligations under this Disclosure Agreement, and may discharge any such Agent, with or without appointing a successor Dissemination Agent. The Dissemination Agent shall not be responsible in any manner for the content of any notice or report prepared by the City pursuant to this Disclosure Agreement. The Trustee shall be the initial Dissemination Agent.

SECTION 8. Amendment; Waiver. Notwithstanding any other provision of this Disclosure Agreement, the City and the Dissemination Agent may amend this Disclosure Agreement (and the Dissemination Agent shall agree to any amendment so requested by the City) and any provision of this Disclosure Agreement may be waived, provided that the following conditions are satisfied:

(a) If the amendment or waiver relates to the provisions of Sections 3(a), 4, or 5(a), it may only be made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature or status of an obligated person with respect to the Bonds, or the type of business conducted;

(b) The undertaking, as amended or taking into account such waiver, would, in the opinion of nationally recognized bond counsel, have complied with the requirements of the Rule at the time of the original issuance of the Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

(c) The amendment or waiver either (i) is approved by the Owners of the Bonds in the same manner as provided in the Indenture for amendments to the Indenture with the consent of Owners, or (ii) does not, in the opinion of the Trustee or nationally recognized bond counsel, materially impair the interests of the Owners or Beneficial Owners of the Bonds.

In the event of any amendment or waiver of a provision of this Disclosure Agreement, the City shall describe such amendment in the next Annual Report, and shall include, as applicable, a narrative explanation of the reason for the amendment or waiver and its impact on the type (or, in the case of a change of accounting principles, on the presentation) of financial information or operating data being presented by the City. In addition, if the amendment relates to the accounting principles to be followed in preparing financial statements, (i) notice of such change shall be given in the same manner as for a Listed Event under Section 5(f), and (ii) the Annual Report for the year in which the change is made should present a comparison (in narrative form and also, if feasible, in quantitative form) between the financial statements as prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles.

SECTION 9. Additional Information. Nothing in this Disclosure Agreement shall be deemed to prevent the City from disseminating any other information, using the means of dissemination set forth in this Disclosure Agreement or any other means of communication, or including any other information in any Annual Report or notice of occurrence of a Listed Event, in addition to that which is required by this Disclosure Agreement. If the City chooses to include any information in any Annual Report or notice of occurrence of a Listed Event, in addition to that which is specifically required by this Disclosure Agreement, the City shall have no obligation under this Agreement to update such information or include it in any future Annual Report or notice of occurrence of a Listed Event.

SECTION 10. Default. In the event of a failure of the City or the Dissemination Agent to comply with any provision of this Disclosure Agreement, the Trustee may (and, at the request of any Participating Underwriter, the Bond Insurer or the Owners of at least 25% aggregate principal amount of Outstanding Bonds, shall), or the Bond Insurer or any Owner or Beneficial Owner of the Bonds may take such actions as may be necessary and appropriate, including seeking mandate or specific performance by court order, to cause the City or the Dissemination Agent, as the case may be, to comply with its obligations under this Disclosure Agreement. A default under this Disclosure Agreement shall not be deemed an Event of Default under the

Indenture or the Installment Purchase Agreement, and the sole remedy under this Disclosure Agreement in the event of any failure of the City or the Dissemination Agent to comply with this Disclosure Agreement shall be an action to compel performance.

SECTION 11. Duties, Immunities and Liabilities of Trustee and Dissemination Agent. Article VIII of the Indenture is hereby made applicable to this Disclosure Agreement as if this Disclosure Agreement were (solely for this purpose) contained in the Indenture. The Dissemination Agent (if other than the Trustee or the Trustee in its capacity as Dissemination Agent) shall have only such duties as are specifically set forth in this Disclosure Agreement, and the City agrees to indemnify and save the Dissemination Agent, its officers, directors, employees and agents, harmless against any loss, expense and liabilities which it may incur arising out of or in the exercise or performance of its powers and duties hereunder, including the costs and expenses (including attorneys fees) of defending against any claim of liability, but excluding liabilities due to the Dissemination Agent's negligence or wilful misconduct. The obligations of the City under this Section shall survive resignation or removal of the Dissemination Agent and payment of the Bonds.

SECTION 12. Notices. Any notices or communications to or among any of the parties related to this Disclosure Agreement may be given as follows:

To the City:

City of San Diego
Financial Management Department, M.S. 9-B
202 C Street, 9th Floor
San Diego, California 92101-3868
Attention: Financial Management Director
Telephone: (619) 236-6070
Fax: (619) 236-7344

To the Dissemination Agent:

State Street Bank and Trust Company of California, N.A.
725 South Figueroa Street, Suite 3100
Los Angeles, California 90017
Attention: Corporate Trust Department
Telephone: (213) 362-7345
Fax: (213) 362-7357

To the Trustee:

State Street Bank and Trust Company of California, N.A.
725 South Figueroa Street, Suite 3100
Los Angeles, California 90017
Attention: Corporate Trust Department
Telephone: (213) 362-7345
Fax: (213) 362-7357

To the Bond Insurer: Financial Guaranty Insurance Company
115 Broadway
New York, New York 10006
Attention: General Counsel

Any person may, by written notice to the other persons listed above, designate a different address or telephone number(s) to which subsequent notices or communications should be sent.

SECTION 13. Beneficiaries. This Disclosure Agreement shall inure solely to the benefit of the Authority, the City, the Trustee, the Dissemination Agent, the Participating Underwriters, the Bond Insurer and Owners and Beneficial Owners from time to time of the Bonds, and shall create no rights in any other person or entity.

SECTION 14. Counterparts. This Disclosure Agreement may be executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

CITY OF SAN DIEGO

By_____

Title:_____

STATE STREET BANK AND TRUST COMPANY OF CALIFORNIA, N.A., as Dissemination Agent

By_____
Authorized Officer

EXHIBIT A

NOTICE TO REPOSITORIES OF FAILURE TO FILE ANNUAL REPORT

Name of Issuer:	Public Facilities Financing Authority of the City of San Diego (the "Authority")
Name of Bond Issue:	Public Facilities Financing Authority of the City of San Diego Sewer Revenue Bonds, Series 1995 (Payable Solely from Installment Payments Secured by Wastewater System Net Revenues)

Date of Issuance: December 13, 1995

NOTICE IS HEREBY GIVEN that the City of San Diego has not provided an Annual Report with respect to the above-named Bonds as required by Section 5.02 of the 1995-1 Supplement to the Installment Purchase Agreement dated as of December 1, 1995 between the Authority and the City. [The City anticipates that the Annual Report will be filed by _____.]

Dated:_____

State Street Bank and Trust Company
of California, N.A.
on behalf of the City of San Diego

cc: City of San Diego

EXHIBIT B

Nationally Recognized Municipal Securities Information Repositories approved by the Securities and Exchange Commission as of the date of this Disclosure Agreement:

Bloomberg Municipal Repository
P.O. Box 840
Princeton, NJ 08542-0840
Internet address: MUNIS@bloomberg.doc
(609) 279-3200
FAX (609) 279-3235 (609) 279-5963
Contact: Dave Campbell

The Bond Buyer
Secondary Market Disclosure
395 Hudson Street, 3rd Floor
New York, NY 10014
Internet address: Disclosure@muller.com
(212) 807-3814
FAX (212) 989-9282
Contact: Thomas Garske

Disclosure, Inc.
Document Augmentation/
Municipal Securities
5161 River Road
Bethesda, MD 20816
(301) 951-1450
FAX (301) 718-2329
Contact: Barry Sugarman (301) 215-6015

JJ Kenny Information Services
The Repository
65 Broadway, 16th Floor
New York, NY 10006
(212) 770-4568
FAX (212) 797-7994
Contact: Joan Horai, Repository

Moody's NRMSIR
Public Finance Information Center
99 Church Street
New York, NY 10007-2796
(800) 339-6306
FAX (212) 553-1460
Contact: Claudette Stephenson
(212) 553-0345