

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

I. Executive Summary

The Strategic Plan utilizes data from the recent efforts to televise and clean sewer lines, along with past studies, to identify a comprehensive approach to improve the sanitary sewer system. The City sewer infrastructure is old and in need of repair – some portions date back to the 1930s. Sewer spills continue to escalate, with roots being responsible for over 50% of all sewer spills during the last five years. Grease in sewer lines is responsible for 17% of sewer spills.

The sewer system is made up of four primary components: sewer lines, pump stations, a transmission line to the treatment plant and the treatment plant. The City operates and maintains everything except the treatment plant, which is the responsibility of the South Orange County Wastewater Authority.

The effort to televise and clean most City sewer lines is about 90% complete and should be completed by the end of March. Approximately 17 miles of sewer lines have been identified as needing rehabilitation during the next five years. The cost to complete the rehabilitations is estimated to be \$7.6 million. The televising information has also been used to put all lines on a cleaning schedule. Lines more than 10 years old will be cleaned at least annually and problem lines will be cleaned more frequently. This is a significant change over the past practice which was to clean lines every three or four years. Increased line cleaning is possible due to the recent addition of three sewer employees.

Twenty-six (26) pump stations are also part of the sewer system and in need of rehabilitation. An internal assessment of the pump stations was conducted by supervisors in the Sewer Division and resulted in multiple recommendations for improvements. It is estimated that the proposed improvements could cost \$10-15 million. Retention of an engineering firm is recommended to review the suggestions, provide valid cost estimates for the improvements and to prioritize the facilities to identify those in greatest need.

The line used to transmit all the City's sewage to the treatment plant is known as the North Coast Interceptor. Funds need to be set aside to eventually replace the current line and/or construct a parallel line. Rough estimates are that it could cost \$5-\$7 million dollars to construct a parallel line. This plan recommends that a qualified firm be retained to assess the condition of the North Coast Interceptor (NCI) during the next year and make recommendations for its eventual improvement.

Funding the necessary improvements represents another challenge. Three scenarios are attached to this report, each recommending different levels of rate increases over the next 10 years. Staff recommends Scenario B, which includes rate increases of 10% a year for the next two years, and inflationary increases thereafter. This approach is similar to the approach taken by the South Coast Water District and would provide rate parity throughout the City. This scenario would generate \$15.3 million in five years to make improvements to the City sewer system and a total of \$22.2 million over 10 years.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

II. Mission Statement

A mission statement is usually defined in a planning process to keep the overall desired outcome at the forefront of thinking during the planning process. The following mission statement is recommended for adoption by the City Council:

The City of Laguna Beach has a “zero tolerance” policy regarding sewage spills and the City Council shall implement the necessary policies and funding mechanisms to eliminate preventable sewage spills.

The reference to “preventable sewage spills” came from discussions with EPA officials reviewing the City’s sewer system. According to those officials, the standard that wastewater system operators are usually evaluated by is whether the spill was preventable. This allows some room for judgment to address natural disasters and accidents, such as flooding or a vehicle driving into a pump station.

Recommendation: Adopt the Mission Statement for the Sewer System Strategic Plan as described herein.

III. Purpose

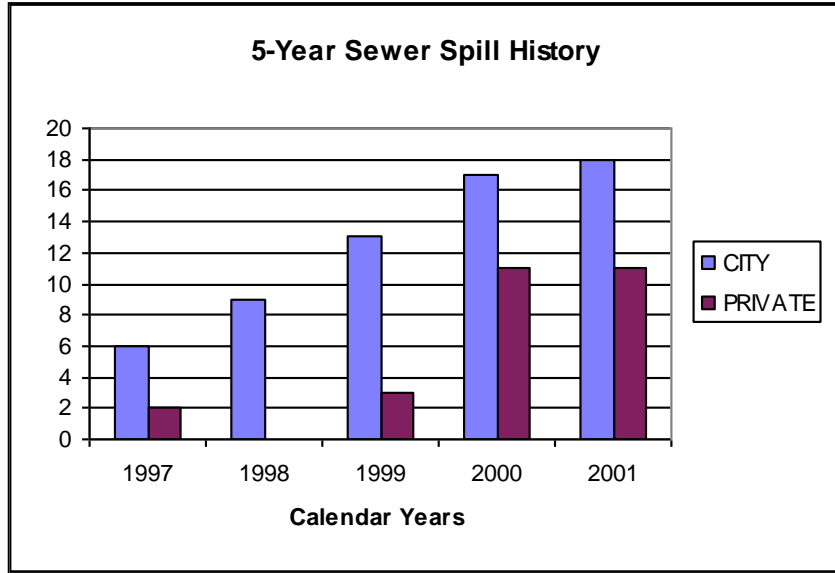
The purpose of this strategic plan is to identify the actions necessary to eliminate preventable sewer spills. These actions may include, but are not limited to, recommendations in the areas of maintenance and operations, capital improvements and financing alternatives. The use of experts in particular fields is also recommended to help prioritize and assess various technical alternatives and solutions.

IV. Background and System Analysis

A. Spill History

Sewer spills have been increasing from the City sewer system and privately owned lines over the last five years as shown by the following chart:

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

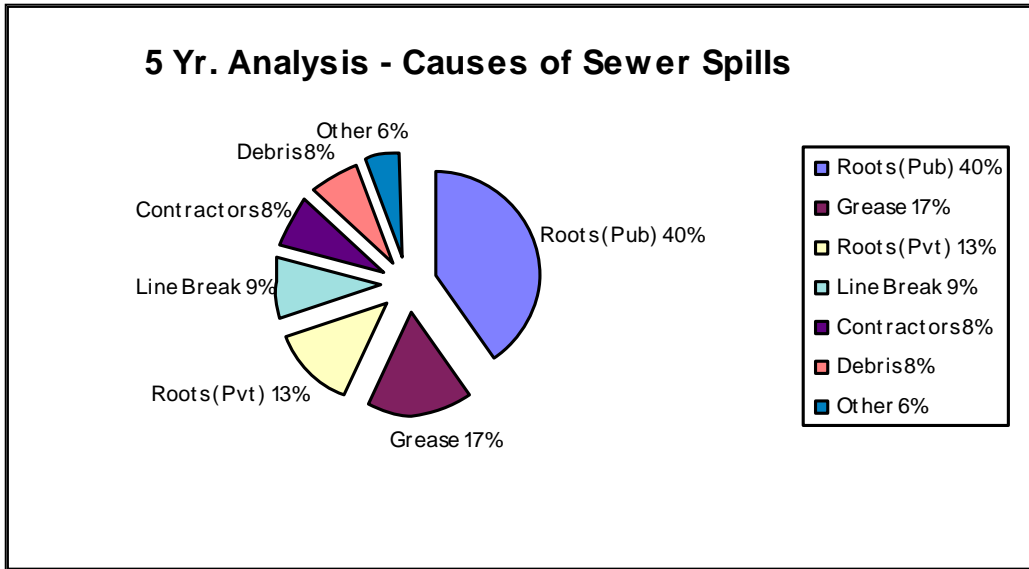


The reporting of sewer spills over the last five years has changed. In general, spills were initially reported only if sewage reached public property except in a few rare circumstances where spills occurred within a private community in the City limits. Consequently, there is a lack of meaningful information on private spills prior to 1999. Other inconsistencies also exist that are being refined by the San Diego Regional Water Quality Control Board (SDRWQCB). For example, should a spill be reported by where the backup occurred or where the sewage surfaced? Staff now reports the cause of a spill based on where the blockage occurred; however, some spills in the past have been reported based on where the sewage surfaced. Additionally, it is very likely that more sewer spills are reported in recent years than in the past due to the stringent reporting requirements and increased awareness regarding sewer spills. While there may be some inconsistencies in reporting, the charts clearly show that both private and public sewer spills continue to increase and need to be addressed.

Sewer spills are reported to the Orange County Health Care Agency (OCHCA), the San Diego Regional Water Quality Control Board (SDRWQCB) and the Office of Emergency Services (OES) as required.

The following chart shows the primary causes of City and private spills over the last five years.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System



It is clear that roots are the number one cause of sewer spills and are responsible for 53% of all sewer spills during the last five years. A further breakdown of sewer spills reveals that 40% of sewer spills are due to roots in City Lines and 13% are due to roots in private lines. The next most frequent cause of spills is grease, which is responsible for 17% of sewer spills. Other causes of spills include breaks in lines, debris, other unknown materials and spills due to contractors. Attachment I includes a complete listing of sewer spills over the last five years.

The City has embarked on a number of programs described herein to address sewer spills due to roots in City main lines. Some examples include adding staff to increase line cleaning, televising the collection system to identify and repair defects in the lines and undertaking this strategic planning process to prioritize and identify funding to rehabilitate the aging sewer infrastructure.

A difficult area to address is sewer spills due to roots in private laterals, which are the responsibility of the property owner. One outcome of the televising effort is the ability to identify roots in private laterals if they are visible from the City main line. This information could be used to initiate programs to require cleaning and/or repairs in private lines. Examples of such programs could include notifying homeowners with evidence of roots in their lines to have them abate the problem or have the City abate the problem and assess it on their property tax bill. Another approach could involve requiring plumbers to notify the City when they are called to clear private lines of roots and require an inspection or a video at that time. The idea of requiring an inspection upon sale of a home has also been mentioned. These approaches represent a new way of thinking regarding

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

private lines and could be expensive and have other implications. Therefore, staff is recommending that a report be brought back to the City Council to discuss the alternatives in more detail.

Recommendation: Direct City staff to prepare a report for City Council consideration in September 2002 to discuss alternatives to address roots in private laterals.

Grease is the second most frequent cause of sewer spills. The City Council has approved a policy for public review and is attempting to work with food preparation establishments to address grease. The latest version of the grease control policy is included as Attachment II to this report.

Recommendation: Direct staff to pursue the adoption of a policy to control grease in the sewer system.

The number of spills due to contractors has increased during the last few years as additional projects are undertaken to improve the sewer system. Controlling spills from contractors will become even more important in coming years as efforts to rehabilitate the aging infrastructure are expedited. In order to mitigate spills from contractors, it is recommended that the City construction specifications and inspection procedures be reviewed to determine what additional steps can be taken to prevent spills from contractors.

Recommendation: Direct City staff to review construction specifications and inspection procedures to determine what additional steps are necessary to mitigate potential spills during construction projects and report back to the City Council in July 2002.

It should be noted that in the last five years there have not been any sewer spills from the North Coast Interceptor, which is the transmission line to the South Orange County Wastewater Authority treatment plant.

Six spills have been reported from City pump stations during the last five years, but were not necessarily due to pump station equipment failure or design problems. Two of these spills were from force mains leaving a station, which are better characterized as line defects. Two spills were due to contractor error. One spill was due to inflow from manholes during a flooding event, which is also more of a line problem. Lastly, one spill was due to grease and debris clogging the main line and a pump, which is considered a pump station problem. Therefore, only one spill can be directly related to pump station equipment failure or design problems over the last five years.

B. Sewer Collection System Description and Analysis

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

The City sewer system is made up of 95 miles of lines and 26 pump stations. This system includes two primary pump stations and 4.3 miles of transmission lines known as the North Coast Interceptor (NCI). The NCI transmits sewage to the treatment plant. Sewage treatment is provided by the South Orange County Wastewater Authority (SOCWA), which was previously known as the Aliso Water Management Authority (AWMA). Full secondary treatment is provided by SOCWA and the effluent is discharged through an outfall pipe approximately one mile off shore into the ocean. This report does not address South Laguna, which is served through a contract with the South Coast Water District.

The following sections describe the City sewer collection system in more detail.

1. Sewer Lines

The City sewer system is made up of 95 miles of sewer lines and 2,674 manholes. Attachment III shows information on the number of linear feet of lines by size, material and function and other detailed information. The following key information can be derived from the system data regarding the collection system:

- 92% of the pipes in the system transport sewage via gravity;
- 78% of the system is eight inch pipe and 99% of this eight inch pipe flows via gravity; and
- 76% of the system is made of vitrified clay pipe.

2. Pump Stations

Laguna Beach has an exceptionally high number of pump stations due to the need to pump waste from homes and businesses below gravity flow areas, such as the area west of Coast Highway and in canyons. Stations were added as the City developed and some date back to the 1930s.

The table on the following page displays a list of the 26 pump stations in the City sewer system. The table shows the number and name for the pump stations; the number of pumps; the estimated retention time; the average gallons pumped per day (GPD) during summer and winter months; and a check mark to note if there is an existing fixed generator and alarm system for the pump station. It should be noted that the Laguna Canyon Road pump station (#20) is already scheduled for elimination by the end of calendar year 2002.

When reviewing the attached table, some consideration should be given to the gallons per day (GPD) columns for winter and summer flows. A few of the pump stations service less than a dozen homes and handle such low amounts of sewage that additional pumps and backup generators may not be necessary.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

Pump Station Inventory

Station Number	Lift Station Name	Number of Pumps	Retention Time from On-Point	Winter (GPD)	Summer (GPD)	Existing Generators	SCADA Alarm
1	Victoria I	2	30 - 45	23,819	42,782		✓
2	Victoria II	2	30 - 45	16,142	25,831		✓
3	Rockledge	1	30 - 45	3,555	3,531		✓
4	Millers	2	2 - 3 Hours	2,783	1,794		✓
5	Pearl Street	2	30 - 45	19,915	25,400		✓
6	Bluebird Canyon	2	30 - 45	69,351	101,147	✓	✓
7	Brooks Street	2	60 - 90	4,232	5,016		✓
8	Anita Street	2	30 - 45	70,429	80,298	✓	✓
9	Cleo Street	2	60 - 90	94,771	121,853	✓	✓
10	Animal Shelter	1	60 - 120	7,000	14,000		
11	Main Beach	3	30 - 45	207,792	258,494	✓	✓
12	Heisler Park	1	60 - 90	1,056	2,096		
13	Fisherman's Cove	2	45 - 60	11,588	17,199		✓
14	Fairview Street	2	60 - 90	40,165	39,528		✓
15	Crescent Bay Drive	2	30 - 60	19,944	18,431	✓	✓
16	McKnight Drive	2	15 - 30	1,051	987		✓
17	Irvine Cove	2	15 - 30	13,715	14,301		✓
18	Santa Cruz	1	30 - 60	3,795	3,659		✓
19	Bernard Ct.	2	60 - 90	4,085	3,889		✓
20	Laguna Canyon Road	2	30 - 60	4,163	4,699		✓
21	Bonn Drive	2	30 - 60	35,423	33,720		✓
22	Arch Beach Heights	2	60 - 90	33,960	35,613	✓	✓
23	Old Top of the World	2	45 - 60	16,601	16,549	✓	✓
24	Nyes Place	2	30 - 45	123,557	317,057	✓	✓
25	Laguna AWMA	4	10 - 15	1,159,309	1,375,705	✓	✓
26	Bluebird AWMA	4	3 - 5	2,074,041	2,282,788	✓	✓
	Totals					10	24

Note: Winter is October through March. Summer is April through September.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

The City has not had substantial problems with sewer spills from pump stations over the last five years. As noted in the section analyzing sewer spills, only one spill can be directly linked to a pump station failure due to its design or mechanical structures. The addition of an alarm system to notify emergency crews immediately of any condition that could indicate a problem has helped tremendously. Nonetheless, pump stations are an important component of the collection system and are in need of improvement.

Supervisors in the Sewer Division were asked to conduct an assessment of the pump stations and their report is shown in Attachment IV. The report addresses all aspects of a pump station, including replacement of mechanical and electrical equipment and some suggested design improvements. Recommendations to replace existing equipment will be used to prepare a prudent replacement schedule in the 10 year Capital Improvement Program (CIP). Recommendations to modify station design or add equipment are summarized below:

- Eight wet wells should be rebuilt to increase retention time
- Nine fixed generators should be added to the 10 existing generators
- Four stations should be studied for possible elimination by redesigning lines to operate on gravity flow
- Four stations should have the force mains replaced or rehabilitated
- Two stations should have alarm systems added

Staff concurs with the recommendation to add alarm systems at Heisler Park and the Animal Shelter and will include the cost in the capital improvement program (CIP).

Recommendation: Program \$10,000 into the CIP to add alarms for Heisler Park and the Animal Control Shelter.

The other recommendations from the assessment report are substantial, costly, and have not had the benefit of review by engineers. Increasing wet-well retention time and adding generators should be based on a policy to provide a certain level of redundancy to reduce the risk of spills and allow adequate response time for sewer personnel in the event of failure at a station. Multiple improvements are recommended to several of the pump stations and, if justified, should be coordinated to save money and minimize the risk of spills during construction. Staff recommends that a qualified engineering firm be hired to review the recommendations in the assessment report, determine which improvements are needed, estimate the cost for such improvements and rank them in priority order.

Recommendation: That \$50,000 be programmed into the FY 2002-03 Budget to hire an engineering firm to review the recommendations in the pump stations assessment report and provide a prioritization of needed repairs with valid cost estimates by February 2003.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

3. SCADA Alarm System

The City utilizes a Supervisory Control and Data Acquisition (SCADA) alarm system to monitor 24 of the 26 pump stations. Alarms send a signal to a computer system in the City corporation yard that pages sewer crews in the event something unusual is happening at the station. The corporation yard computer has a backup power source and a cell phone box to back up conventional power and phone lines. In general, pump stations are alarmed for the following: high wet well, power failure, communications failure, flow in the pump station room, excessive pump run times and generator running. The SCADA system helps give sewer crews as much advance notice as possible of a potential problem with the pump stations. The system also tracks alarm and pump statistics, which provides another assessment tool for maintenance crews to evaluate the efficiency of a pump station.

As previously noted, the two pump stations that are not alarmed are the stations serving only the animal shelter and the public restroom at Heisler Park. These stations only serve one facility and have very low flow. However, some simple alarms are recommended for these stations.

4. North Coast Interceptor (NCI)

The North Coast Interceptor is the line used to transmit sewage to the South Orange County Wastewater Authority (SOCWA) treatment plant in Aliso Canyon. The Aliso Water Management Authority designed and constructed the line in the late 1970s. Responsibility for the line was transferred to the City in the late 1980s. The NCI is 4.3 miles in length, varies in size from 21" to 27" in diameter and is constructed of four different types of materials. The line starts in the City corporation yard and transmits approximately 2.5 million gallons of sewage to the SOCWA treatment plant each day.

The City Public Works Director/City Engineer, Steve May, was asked to provide information regarding the future replacement of the North Coast Interceptor line. His analysis is included in Attachment V and basically concludes:

- It is extremely difficult to assess the condition of most of the pipe due to the amount of flow that it carries and the fact that there are no redundant pipes or a backup system;
- Portions of the line could last 50 years and others could fail at any time; and
- A replacement strategy should involve the construction of a completely new and redundant line, while leaving the existing line in place as a backup.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

Mr. May also estimates that it could cost up to \$100,000 to study replacement alternatives for the North Coast Interceptor and \$5 million, or more, to construct a new line.

The City has not had any recent problems with the line; however, there are no replacement funds set aside for its ultimate replacement or to construct a parallel line. Additionally, the line is extremely difficult to bypass and therefore accurately assess and maintain. Staff recommends that funds be programmed into the CIP to retain a consulting firm to review replacement alternatives and costs for the NCI. This information can then be used to begin planning for the eventual construction of a replacement or parallel line.

Recommendation: That \$100,000 be programmed into the proposed CIP for FY 2002/03 to study alternatives for the eventual replacement of the North Coast Interceptor or construction of a parallel line.

During preparation of this strategic plan, it became apparent that repair parts are not presently on hand for the North Coast Interceptor. Because of its size and makeup, it is not likely that pipe repair kits and line segments can be readily obtained in an emergency. Replacement parts need to be purchased and housed nearby in case of a failure of the NCI line. It is estimated that repair parts can be purchased for \$30,000.

Recommendation: That staff purchase repair kits and parts for the NCI as soon as possible.

5. Private Systems

The Emerald Bay and Smith Cliffs private communities utilize the City's collection system to convey between 7,000 and 12,000 gallons of sewage per day to the South Orange County Wastewater Authority (SOCWA) treatment plant. Emerald Bay is billed by the City for use of its system on a proportional basis and Smith Cliff users pay a sewer fee to the City.

6. Treatment

Sewage receives full secondary treatment at the South Orange County Wastewater Authority (SOCWA) treatment plant in Aliso Canyon. This plant was previously known as the Aliso Water Management Agency (AWMA). The treated effluent is discharged through a pipe approximately one mile off shore into the ocean. This standard of treatment is higher than that provided by most agencies in Orange and San Diego Counties, including the Orange County Sanitation District, since many of those dischargers have waivers from the full secondary treatment requirements.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

The SOCWA system appears to be functioning reasonably well, although funds need to be set aside to replace capital facilities as they age. SOCWA has adopted a 20 year capital improvement program which allocates shares to each member agency. The ten year sewer capital improvement program in this report incorporates those allocations.

The SOCWA treatment process currently costs the City about \$2.1 million dollars a year or about 36% of the fiscal year 2001-02 budget. The main components are:

Debt Service	\$590,000
Capital Improvements	\$561,000
Operations	\$952,000

The annual debt service is used to retire bonds that SOCWA sold on behalf of the City to construct the treatment facilities. Those bonds were recently refinanced to reduce the interest cost and the annual payment. The bonds will be fully retired in 2009, thereby releasing more than half a million dollars per year for capital improvements in the City sewer system.

C. Organization Structure

In February 2001, the City Council authorized the addition of three maintenance workers to the Sewer Division. This resulted in a 40% increase in staffing and brings the number of full-time employees in the Sewer Division to ten. Recently, an Administrative Clerk was also reassigned to partially support this division. The Sewer Division is part of the Public Works Department; however, because of the priority placed on improving the sewer system by the City Council, this Division has been temporarily reassigned to the Assistant City Manager. An organization structure showing the division and the reporting relationships is shown in Attachment VI.

D. Fines and other costs

In January 2001 the City was fined \$60,000 by the San Diego Regional Water Quality Control Board for excessive sewage spills. The Regional Board continues to monitor the City's spills and progress towards making improvements to stop sewer spills.

E. Actions to Improve the Sewer System

The City has embarked on a number of efforts in recent years to improve the sewer system and minimize spills. A summary of these actions is shown below:

1. Technical Advisory Committee

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

During FY 1998/99, a Sewer System Ad Hoc Committee was formed by the City Manager to assist with development of a 10-year capital improvement program. The committee's recommendations were taken into account when the budget and capital improvement program were approved by the City Council.

2. Bucknam Report

A report was commissioned by the City Manager in July 2000 from Bucknam and Associates to develop a comprehensive Sewer System Program Plan for sewer system operations. The report was complete in October 2000 and made seven recommendations in the form of "Key Result Areas" (KRA), which are summarized below along with the status of actions in each area. The full Executive Summary from the report is shown in Attachment VII.

KRA-1 – Organizational Enhancement: The addition of a two-person cleaning and rodding crew was recommended to increase the number of miles cleaned and inspected annually.

On February 6, 2001, the City Council approved the addition of a three person sewer cleaning crew. The personnel have been working since August and as a result, sewer crews cleaned approximately 68 miles of sewer lines in calendar year 2001.

KRA-2 – Training Program: the importance of a focused training and certification program for all Sewer Services Division management and staff was emphasized.

The California Water Environment Association (CWEA) program was noted as a good program, which offers certifications in six areas: 1) collection system maintenance, 2) laboratory analysis, 3) mechanical technology, 4) electrical & instrumentation, 5) environmental compliance inspections, and 6) industrial waste treatment operation. Certifications can be obtained progressively in two or four grades for each area. Areas one, three and four are most applicable to City employees since we maintain the collection and conveyance system and pump stations.

The annual cost for membership in CWEA is \$70 per employee. Certification requires employees to purchase study materials, attend an optional one-day study session and then pass an exam. The certification is largely a self-study program. Material costs range from \$70 - \$115 per exam. Certification can help employees be more knowledgeable about current maintenance practices and innovations.

It is recommended that \$8,000 be budgeted to cover CWEA membership, certifications costs and training opportunities throughout the year.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

Recommendation: Direct staff to include \$8,000 of funding in the FY 2002/03 budget to cover the cost of materials, tuition, etc., for sewer division employees to obtain CWEA certifications and attend training opportunities.

KRA-3 – Maintenance Management System: The report recommended that key budget, scheduling and performance information be tracked and incorporated into performance evaluations and budgets.

Two efforts are underway in this area. First, the City has interviewed and evaluated software systems from eight companies and narrowed the finalists to two firms. These firms responded to Requests for Proposals in late January with pricing, implementation and support information. A computerized maintenance management system should be in place by the end of July.

Secondly, specific goals have been set for the sewer division. One key goal requires all gravity sewer lines that can be cleaned without a bypass, to be cleaned annually, or more frequently if necessary, to minimize sewer spills. These goals are reviewed weekly with the Sewer Services Supervisor and monthly with all Maintenance Lead Workers. Semi-annual meetings are held with all division staff to discuss the progress toward meeting goals and objectives.

KRA-4 – Career Advance Program: A program to allow for promotion based on performance standards was suggested to improve employee retention.

The addition of a three-person crew provided some opportunities for advancement and a new Maintenance Worker II position was opened up as a promotional opportunity in January 2002. Other actions will continue to be reviewed by City management.

KRA-5 – System Improvement Plan: The report recommended a plan to evaluate sewer pump stations; consider elimination of some pump stations; perform a hydraulic analysis; reprioritize the existing 10-year capital improvement program and a financing strategy.

This Strategic Plan Report is addressing the issues described above.

KRA-6 – Public Information/Education: The report suggested programs to improve the public and regulatory agencies' understanding of sewer system activities.

The City Council has appointed an Ad Hoc Wastewater Advisory Committee made up of citizens in Laguna Beach with some type of background in wastewater operations, design or financing. Staff from the EPA and the San Diego Regional Water Quality Control Board also participated in a system tour in

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

November 2001 and January 2002. Information regarding sewer system improvements was also published in the annual City report in September. However, there still exists a need to let citizens and businesses know what the City is doing to improve the sewer system and what they can do to help. A citywide mailer is recommended to distribute such information.

Recommendation: Include \$7,000 in the proposed FY 2002-03 budget for a citywide mailer to all residents and businesses describing activities to fix the sewer system and best management practices customers can follow.

KRA-7 – Emergency Response Program Refinement: The recently adopted Emergency Response Plan should be reviewed for post event critiques.

Staff agrees that the Emergency Response Program needs to be reviewed periodically and plans to conduct such a review during FY 2002-03 with all involved departments.

3. February 2001 Status Report

On February 6, 2001, a report was made to the City Council regarding the “Status of Sewer System Improvements”. In summary, the report authorized: 1) the hiring of a three person cleaning crew, 2) a change to a seven day per week work schedule, 3) transferring storm drain maintenance from the streets division to the sewer division, 4) approving a new position to oversee the sewer and storm drain operations, 5) authorized the development of a Geographic Information System (GIS) and a computerized maintenance management system (CMMS), and 6) directed staff to consider replacing private sewer laterals during reconstruction of sewer lines when the mains are relocated for ease of maintenance.

As previously noted, the three person cleaning crew has been hired and a seven day per week schedule implemented. Storm drain maintenance has not been transferred to the sewer division yet due to the division working to increase line cleaning. The Assistant City Manager has been assigned the responsibility for overseeing the sewer division, postponing the need to hire a Sewer and Storm Drain Manager. A GIS system has been developed and two firms have been identified as finalists for implementation of a CMMS.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

4. Wastewater Advisory Committee

On September 4, 2001, the City Council appointed a nine member Ad Hoc Wastewater Advisory Committee to work with staff, but report directly to the City Council, to improve the sewer system and stop sewage spills. The Committee is co-chaired by Mayor Wayne Baglin and Council member Toni Iseman. Seven residents with backgrounds in wastewater operations, design or financing make up the remaining members of the Committee.

5. Environmental Protection Agency (EPA) Review

The EPA was invited by the City to assist with a review of the sewer system. Incidentally, the EPA was also planning to conduct its own review of the City's sewer system. Since November 1, 2001, EPA staff have met with City staff, the Ad Hoc Wastewater Advisory Committee and toured various facilities on two occasions. A report has not yet been issued.

6. Televising and Cleaning Program

The City has been working to televise and clean all of the sewer lines that can be accessed without a major bypass. Lines that handle large volumes of flow and/or are under pressure from pump stations need to be bypassed during televising. Bypasses involve substantial setup, traffic control, increased risk of spills, and are expensive.

Attachment VIII is a map showing the City's televising and cleaning timeline. An estimated 290,000 linear feet of lines will be cleaned as a result of this effort. Exact figures are not available, since this effort is still underway. The contractor was originally supposed to complete the televising and cleaning effort in December; however, when City staff checked the contractor's work, there were many missed segments. The contractor will be going back to televise and clean the missing sections during February and early March. The cost of the cleaning and televising effort is expected to be around \$350,000, not including the cost of emergency repairs.

Emergency repairs are made when necessary as the program progresses. To date, 40 repairs have been made at an estimated cost of \$135,000. The televising footage revealed many interesting things, such as a fence post that was driven through the middle of a sewer pipe and over 100 feet of a plumber's line cleaning tool stuck in a line with a ball of roots. These blockages would have resulted in spills if not removed and repaired.

The data from the cleaning and televising project is being used to target line rehabilitation and cleaning. The resulting schedules will be discussed in the Maintenance and Capital improvement sections of this report.

7. Wastewater Grease Control Policy

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

The City Council has held multiple meetings regarding a wastewater grease control policy. The most recent efforts include award of a contract to a consultant to inspect all food preparation establishments on June 12, 2001; adoption of a new policy to undergo public review on August 28, 2001, requiring the installation of grease interceptors and the removal of food grinders within 18 months; a workshop regarding the proposed policy on September 25, 2001, attended by over 100 people; and a November 6, 2001, review of comments from the workshop. The policy is scheduled for consideration again by the City Council in February 2002. A copy of the latest policy document is shown in Attachment II to this report.

8. Grant Funds

The City was advised in November 2001 of a \$900,000 Federal Grant award to help improve its outdated sewer system. This grant, combined with \$900,000 of City matching funds, will make \$1.8 million dollars available in FY 2002/03 to begin making repairs to the Sewer System.

F. Current and Future Regulations

1. Order No. 96-04

The California Regional Water Quality Control Board, San Diego Region, lists the City of Laguna Beach as a discharger in Order No. 96-04 adopted May 9, 1996, along with other owners of sanitary sewer collection systems in the San Diego Region. The order was issued as a result of the "Water Quality Control Plan for the San Diego Basin Region 9" adopted by the Regional Board and approved by the State Water Resources Control Board in 1994.

In summary, Order 96-04 prohibits the discharge of untreated sewage from the sewer system; requires the preparation and maintenance of a "Sanitary Sewer Overflow (SSO) Prevention Plan" and a "Sanitary Sewer Overflow (SSO) Response Plan"; specifies various reporting procedures for sewer spills; and sets forth fines for failure to comply with the order. The SSO Prevention and Response plans are Attachments IX and X to this report.

2. Other Regulatory Actions

Other regulatory agencies have adopted new regulations that will impact sewer operations in the near future. The EPA is working on draft Capacity, Management, Operation and Maintenance Programs (CMOM) that wastewater collection system and treatment plant operators will likely have to comply with in the future. Attachment XI includes information on the draft regulations. It is not known when the regulations may be finally adopted.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

The Governmental Accounting Standards Board (GASB) has issued rule 34, which requires various changes in financial reporting, including a change in the way infrastructure assets are valued and recorded. Initially, just reporting the value of newly acquired infrastructure is required. Beginning in 2006, the City will be required to retroactively capitalize and report all general infrastructure assets acquired, renovated or improved since 1980. Development of the City's Geographic Information System will greatly help with this task, as well as implementation of a computerized maintenance management system. A summary article regarding GASB 34 is Attachment XII to this report.

V. Operations and Maintenance

A. Current Maintenance Practices

1. Pump Stations

Sewer crews are scheduled to conduct the following maintenance activities for pump stations:

- Pump stations are inspected on average three times a week to check the hours on the motors, alarm lights on electrical panels, exhaust systems, Bioxide metering systems and diversion units when in place.
- The two SOCWA pump stations connected to the NCI are checked daily and standby pumps are exercised every Monday.
- Bioxide deliveries to mitigate odors are made monthly.
- Two wet wells are cleaned each month, so all wetwells except the SOCWA stations are cleaned annually.
- Generators are exercised under a load every month.
- On an annual basis, the following pump station equipment is reviewed and maintained.
 - Control panel
 - Pumps
 - Check Valves
 - Wet wells
 - Remote Telemetry Units (RTU)
 - Generators

2. Line Cleaning

During calendar year 2001 almost all of the gravity lines in the City were cleaned at least once using city crews and contractors. This is the first time in the history of the system that most lines have been cleaned in a year. Prior to last year, lines were cleaned once every three or four years.

The sewer system consists of 462,510 feet of gravity sewer lines, which is 92% of the overall system. A review of contracted cleaning reveals average daily

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

cleaning between 1,800–2,800 linear feet. The range is due to conditions in the field. Cleaning is much more efficient when lines are easily accessible in the middle of the street and have minimal root intrusion. Lines located on hillsides or through back yards can be difficult to access, have more roots and take much longer to clean.

Staff has set a goal for the Sewer Division to clean an average of 2,100 feet of gravity sewer lines a day, for a total of 10,500 linear feet a week, during calendar year 2002. In order to achieve this goal, a City crew will be dedicated to cleaning and not responsible for other activities, similar to a contracted crew.

Based on the new goal, it should take 45 weeks to clean the entire system. Since there are 52 weeks during the year, this goal provides some cushion for unexpected events such as storms, equipment failures, etc. Additionally, another crew will assist during the year to clean hot spots (areas that need frequent cleaning) and help clean difficult areas, such as the many sewer lines in easements. Some additional overtime is being budgeted next year to assist the cleaning crews if necessary.

3. Seven Day-a-Week Schedule

In order to provide better response time to potential sewer spills on weekends, sewer crews were put on a regular seven-day work schedule in approximately April 2001. The total number of staff in the division is 10, including the Sewer Services Supervisor. During the week, the following numbers of employees are on schedule:

Sunday	- 2
Monday	- 10 or 8, depending on flex days
Tuesday	- 8
Wednesday	- 8
Thursday	- 10
Friday	- 6, due to flex days
Saturday	- 2

4. Downtown Inspections

The downtown area has unique problems due to the high concentration of restaurants and the relatively flat slope from Coast Highway back to the Laguna SOCWA pump station in the corporation yard. In order to prevent as many problems as possible, approximately 25 manholes are inspected each week at various locations in the downtown, near the beach and in canyons. The manhole covers are lifted and the amount of flow in the lines is reviewed. If there is any indication of a potential problem, the line is jetted the same day.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

5. Nuisance Water Diversions

Each April the City installs several nuisance water diversion systems to divert urban runoff from storm drains into the sewage system for treatment and prevent it from polluting the ocean. These units provide a secondary benefit of capturing sewage spilled into an upstream storm drain and returning it to the sewer system. Presently, the City utilizes eight nuisance water diversions and another five are being designed and should be implemented in the next year. The diversion units are generally in place from April to October or November, depending on rains. A list of current and planned diversion units is shown on Attachment XIII.

6. Training

Training is an area that can be improved. Sewer employees deal with a large variety of conditions and equipment and need training annually in the following areas: electrical systems, lift stations, confined space entry, traffic control, general safety, portable generators, portable pumps, driving safety and use of the rodder truck to cut roots that can't be handled by the jetter truck. Additionally, training is needed every six months to trouble shoot alarm conditions; operate the jetter/vacuum truck, which is the most important piece of equipment to remove line blockages quickly and recover spilled sewage; and clean lines efficiently and safely.

Funds for CWEA certification training are also recommended for inclusion in the FY 2002-03 budget, as previously noted in this report. This training was recommended by the Bucknam and Associates report to improve the knowledge and ability of sewer personnel regarding sewer collection systems. This training would be in addition to the specific training described above.

B. Additional Recommended Maintenance Practices

1. Implement a computerized maintenance management system

After reviewing the maintenance schedule, it is obvious that there are many scheduling challenges. A computerized maintenance management system is essential to coordinate all activities and ensure an aggressive schedule to clean the lines is maintained. Such a system was recommended in the Bucknam and Associates report and will likely be required to comply with future CMOM regulations being developed by the EPA. Staff has narrowed the companies that provide such software to two firms. Staff hopes to request Council approval to award a contract in the near future and implement a computerized maintenance management system in July 2002. Funds are included in the current year budget to purchase the system.

Recommendation: Direct staff to implement a Computerized Maintenance Management System by July 31, 2002.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

2. Continue to utilize and improve the Sewer Geographic Information System (GIS).

Maps in the City are old and out-of-date. A contractor was hired to complete the initial conversion of old maps to a computerized Geographic Information System (GIS). This system is an essential tool to manage the infrastructure; however, it needs to be continuously updated to be accurate. Also, as the information becomes more accessible and known, additional ways to use it will surface. Some funds or personnel must be budgeted to maintain and use this resource.

Recommendation: Include \$10,000 in the proposed budget to provide for maintenance and use of the sewer Geographic Information System.

C. Emergency Response

The City has a Sanitary Sewer Overflow Response Plan (Attachment X) to dispatch sewer, marine safety, police and fire personnel to any significant sewer spill or any after hours sewer spill. The plan generally seems to be working well, with one exception; response times for sewer personnel need to be improved. Public safety and marine personnel provide critical assistance in containing an overflow, redirecting traffic and securing the area to prevent public contact with the flow; however, they cannot operate the equipment necessary to clear the blockage and they do not have the knowledge or training to troubleshoot problems at a pump station.

When sewer personnel are hired, every attempt is made to hire people that live in the City or within a 20-mile radius of the City. Very few candidates are able to live in the City, or even near to it, due to the high cost of housing. Slow moving traffic flow into the City can result in costly response time delays of 30-45 minutes, or longer. Once sewer personnel reach the City, they have to pick up the appropriate equipment at the corporation yard and then respond to the site of the spill. In this new environment of increasing regulation, and considering the aging sewer infrastructure, these response times need to be improved.

The City has a housing assistance program to help key personnel purchase a home in the City. The Water District also has a housing assistance program to provide a monthly subsidy to emergency response personnel to allow them to rent homes or apartments in the City. Staff is recommending that a housing assistance program be developed to locate four sewer personnel in the City to improve emergency response time.

Recommendation: Direct staff to prepare a policy for consideration by the City Council, by June 1, 2002, regarding a housing assistance program to locate four sewer service employees in the City.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

VI. Capital Improvement Program

A. Line Rehabilitation

The City embarked on a major effort to clean, televise and repair approximately 70% of its sewer lines over the last year. This effort is about 80% complete and should be finished by the end of February or early March. The preliminary data allows estimates to be made regarding the cost to rehabilitate the sewer system.

Lines were ranked from one to five based on the following scale; a more detailed description of the ranking program is shown on Attachment XIV.

<u>Sewer Line Ranking System</u>	
<u>Ranking</u>	<u>Summary Description</u>
5	Emergency repairs needed
4	Rehabilitation needed in the next one or two years
3	Rehabilitation needed within two to five years
2	Line in good condition, only minor defects, reassess in five years
1	No visible defects; reassess in five years.

Lines ranked five are repaired on emergency basis. As of January 31, 2002, forty repairs have been made at an approximate cost of \$135,000. Two additional urgency repairs are being evaluated at an estimated cost of \$150,000. The following table shows a summary of the line rankings, quantities and costs.

<u>Summary of Line Rankings – Project approximately 90% Complete</u>		
<u>Description</u>	<u>Est. Miles</u>	<u>Est. Cost</u>
Lines with a 4 ranking	6.1 miles	\$3.1 Million
Lines with a 3 ranking	9.9 miles	\$2.9 Million
Contingency for outstanding footage-10%	1.3 miles	\$0.6 Million
Contingency for unexpected conditions	N/A	\$1.0 Million
Total	17.3 miles	\$7.6 Million

The estimated cost to make all these repairs is \$7.6 million dollars and will fluctuate until the project is complete and more detailed specifications are assembled.

The line ranking information has been overlaid with the repairs that were made, sewer spills over the last five years and some estimates of the age of the sewer system. The resulting map is shown on Attachment XV. When all these factors are taken into consideration, some areas of higher priority are apparent. For example, the area northwest of High Drive to Emerald Bay is a high priority area.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

The City presently has \$1.8 million dollars to rehabilitate lines over the next year. Given that needs greatly exceed present resources, some priorities must be identified. Also, consideration must be given to other concurrent projects, such as the City's street paving schedule. The areas recommended for immediate rehabilitation with the \$1.8 million are shown on Attachment XVI and equate to about 2 miles. Rehabilitation will require excavation and lining and includes a 14% contingency for unknowns. Acquiring funds to complete the rest of the rehabilitation is discussed in the Financing section of this document.

Recommendation: That the City Council direct staff to program \$1.8 million dollars into the CIP to make the improvements noted on Attachment XVI.

The line ranking information was also used to target cleaning. In general, the City is already committing to clean most gravity lines annually, which should help address root infiltration problems. However, there are some lines that need more frequent cleaning due to the condition of the line and/or the type of material put down the lines. According to the City Engineer, newer lines don't need to be cleaned as frequently and over cleaning can shorten their life.

B. Pump Stations

As previously noted in this report, supervisors in the Sewer Division completed a comprehensive assessment of all 26 pump stations which is shown in Attachment IV. Staff is recommending that an engineering firm be retained to review this assessment and provide priorities and valid cost estimates for the stations. It is conceivable that improvements to pump stations could range from \$10 - \$15 million dollars depending on the priorities and desired level of redundancy to minimize spills.

C. SOCWA Treatment Plant Improvements

The City's portion of improvements to the SOCWA treatment plant are set forth in the "Facility Assessment Needs Analysis, A 20 year look" published by SOCWA in 1998 (AWMA at that time). This document is presently being updated, but new figures were not available at the writing of this report. The capital improvement schedule from this plan is Attachment XVII to this report and has been incorporated into the financial scenarios described in the following "Financing" section.

In summary, the City needs to have funds on hand to pay its portion of capital improvements at the treatment plant over the next 10 years, the most significant of which is the cost to repair or replace the ocean outfall in six years. The current estimate of the City's share is \$2.3 million dollars, but is under review and may be lowered. Even if the estimate is lowered, the cost will be significant and funds

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

have been programmed into the financing scenarios to plan for the project. In current year dollars, the CIP includes approximately \$3.4 million over the next 10 years for the City's share of treatment plant improvements.

D. North Coast Interceptor

As previously discussed, presently there are no known problems with the NCI; however, there are no easy ways to bypass and inspect the pipes. Eventually, the pipe will need to be replaced or a parallel line constructed. Funds to study the NCI are recommended for next fiscal year and are shown in the financing scenarios. The financing scenarios also include funds which can be used for debt service or to start building up a reserve. It could easily cost between \$5 and \$7 million dollars to construct a new transmission line.

E. Summary of Possible Capital Improvement Costs

Until more detailed studies and cost estimates are completed on the pump stations and the North Coast Interceptor, the costs to rehabilitate and repair these facilities are very rough and could change substantially. Nonetheless, the following provides some perspective on what these costs might be:

Estimates of Possible CIP Costs over the next 10 Years (Figures shown as 2002 dollars in millions)		
<u>Description</u>	<u>Low</u>	<u>High</u>
Line Rehabilitation	\$ 7	\$ 9
Pump Stations	\$ 10	\$ 15
North Coast Interceptor	\$ 5	\$ 7
SOCWA Treatment Plant	\$ 3	\$ 5
Totals	\$25 million	\$39 million

VII. Financial Analysis and Alternatives

A. Summary Analysis of Financial Condition

The Sewer Fund presently has no available fund balance or reserves; all funds have been appropriated to make capital improvements to the system. The fund does have cash available because funds have been appropriated for various projects that are not complete, including setting aside funds to match the federal grant the City is to receive next year. Also, sewer division employees have been added to increase sewer line cleaning frequency to mitigate the impacts of roots in the system. These employees have not yet been reflected in the rates. The financial plan should include a provision to build up a 10% operating reserve over a maximum of five years.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

Recommendation: The Budget and CIP should include provisions to build up a minimum 10% operating reserve within five years.

B. CIP History

The chart on Attachment XVIII shows the capital improvements that have been spent on the sewer system during the last 35 years. Approximately \$12 million dollars has been spent on improving City facilities in the last six years, as compared to \$7 million dollars during the prior 30 years.

Attachment XIX shows the expense history over the last six years. It is interesting to note that 45% of expenditures have been on capital projects and 44% on operations and maintenance. Debt service expenses amounted to 11% over the last six years. A copy of the current Sewer Fund budget is Attachment XX to this report.

C. Survey of Sewer Rates

The following survey was completed to compare the City of Laguna Beach monthly residential sewer rate to other nearby cities and districts:

City or Agency	Monthly Residential Rate	Billing Methodology
South Coast Water District ¹ (South Laguna Beach)	\$33.00	Flat Rate
City of Laguna Beach ² (North Laguna Beach)	\$28.00	Flat Rate
San Clemente	\$27.80	Flat and consumption
San Juan Capistrano	\$15.40	Flat Rate
Irvine Ranch Water District	\$12.55	Flat and consumption
Moulton Niguel Water District	\$11.90	Flat and consumption

The City of Laguna Beach sewer service rates are comparable to the South Coast Water District and the City of San Clemente, both of which have similar coastal challenges in terms of topography and older sewer systems. The Irvine Ranch and Moulton Niguel districts are generally inland and have newer infrastructure; therefore, their rates are generally lower. All of the Cities listed use the SOCWA treatment plants and do not subsidize the rates from the General Fund or another funding source. Commercial rates have not been shown here due to the near impossibility of getting equitable comparisons because of the different rate categories.

¹ This rate is effective July 1, 2002.

² This rate is scheduled to be effective July 1, 2002.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

D. Analysis of Three Financial Scenarios

1. Assumptions

The following scenarios set forth three approaches to funding sewer infrastructure improvements. In preparing these scenarios, several assumptions were made and are described below:

The assumed priority for capital improvements is line rehabilitation based on the results from the televising and cleaning program and the fact that almost 80% of sewer spills over the last five years were due to line problems from roots, grease, debris or defects. During the last five years only one sewer spill can be attributed to pump station equipment failure or design. No spills can be attributed to the North Coast Interceptor.

State Revolving Loan Funds are available through the State Water Resources Control Board at one-half the State General Obligation Bond rate, which is presently 5.2%, making the loan rate 2.6%. The maximum term is 20 years and there are no fees for loan origination. Borrowing \$1 million at an interest rate of 2.6% for 20 years, results in annual loan payments of approximately \$65,000.

In order to receive a State Revolving Loan, the City must submit a request to the San Diego Regional Water Quality Control Board in March. If the Board approves the application, it will be placed on a priority list and forwarded to the State Water Resources Control Board. The State Board must then approve the loan.

If a State loan were not available, bonds could be issued to finance the necessary improvements. The current interest rate on bond funds is approximately 5% and bonds can be issued for various amounts and terms, assuming the rates are in place to support the debt service. Bonds issuances have administrative costs for consultants, attorneys, underwriters and financial advisors; require reserves and minimum debt service coverage ratios, etc. The costs to issue bonds are much higher than a State loan. In general, in order to net \$1 million dollars, \$1.176 million dollars of bonds must be issued. At a 5% interest rate and a 20 year term, debt service is about \$95,000 a year per \$1 million borrowed.

The financial scenarios below assume borrowing through the State Revolving Loan Program.

Each of the scenarios also assume revisions to the current Capital Improvement Program to fund studies of the NCI and pump stations, and to provide funds to relocate sewer lines in conjunction with the Laguna Canyon Channel project.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

Other Assumptions:

- Inflation is assumed to be approximately 3.5% over the next 10 years.
- Rate increases are necessary to keep pace with inflation.
- A 10% operating reserve will be built up in the first five years.

2. Scenario A (Attachment XXI)

This scenario is designed to represent inflationary rate increases of 3.5% each year for the next 10 years. In FY 2008/09 the bonds issued for the SOCWA improvements are paid off, making it possible to finance an \$11 million dollar loan the same year from the State Revolving Loan Fund.

3. Scenario B (Attachment XXII)

A 10% rate increase is assumed in FY 2002/03 and FY 2003/04, similar to the approach taken by the South Coast Water District. This approach keeps the City of Laguna Beach sewer rates consistent with the South Coast Water District rates, and ensures rate parity across the City. Increases of 3.5% a year are assumed for the remaining eight years of the Capital Improvement Program. This scenario also provides for financing an \$11 million loan from the State Revolving Loan Fund in FY 2003/04.

4. Scenario C (Attachment XXIII)

A 30% rate increased is assumed in FY 2002/03 and then 0% rate increases for the next four years. The last five years include 3.5% rate increases each year. This scenario allows for financing a \$15 million dollar loan in FY 2003/04.

5. Comparison of Monthly Residential Sewer Rates

<u>Year</u>	<u>Scenario A</u>	<u>Scenario B</u>	<u>Scenario C</u>
Current	27.00	27.00	27.00
Year 1	28.00	29.70	35.10
Year 2	28.92	32.67	35.10
Year 5	32.07	36.22	35.10
Year 10	38.09	43.02	41.69

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

6. Generation of Capital for Sewer System Improvements (Figures in Millions)

Capital Generated Over 5 Years			
	<u>Scenario A</u>	<u>Scenario B</u>	<u>Scenario C</u>
Line Rehabilitation	3.6	7.6	7.6
Pump Stations and NCI	0.2	7.1	10.9
<u>SOCWA Treatment Plant</u>	<u>0.6</u>	<u>0.6</u>	<u>0.6</u>
Total	\$4.4	\$15.3	\$19.1

Capital Generated Over 10 Years			
	<u>Scenario A</u>	<u>Scenario B</u>	<u>Scenario C</u>
Line Rehabilitation	7.6	7.6	7.6
Pump Stations and NCI	7.8	11.3	13.8
<u>SOCWA Treatment Plant</u>	<u>3.3</u>	<u>3.3</u>	<u>3.3</u>
Total	\$18.7	\$22.2	\$24.7

7. Analysis of Alternatives

The primary difference in the three scenarios is the generation of capital in the first five years of the Capital Improvement Program. ***It is important to note that in FY 2002/03 all three scenarios provide \$1.8 million dollars to rehabilitate sewer lines and \$150,000 to study the North Coast Interceptor and review the pump station assessment report.***

Scenario A would allow only category four improvements (approximately \$3.6 million) to be made to sewer lines during the first five years, but not the category three improvements. Also, there would not be any funds to make physical improvements to pump stations or the NCI in the first five years. Over a 10 year period, \$7.8 million would be available for pump stations and the NCI.

Scenario B would allow all \$7.6 million of line rehabilitation to take place in five years or earlier and provide \$7.1 million dollars toward pump station and NCI improvements. Rates would be high for the county, but similar to the South Coast Water District. Significant rate increases would occur over two years, providing some warning for residents and businesses. Over 10 years, \$11.3 million of improvements could be made to pump stations and after seven years, \$750,000 a year could be set aside in a reserve fund for the NCI or to finance debt for its improvement.

Scenario C provides \$3.8 million dollars more in the first five years. This allows for all \$7.6 million of line rehabilitation to be funded in the first five years and sets aside \$10.9 million during the same period for pump station and NCI improvements. A total of \$13.8 million would be available over a 10 year period

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

to fund pump station and NCI improvements. This alternative has the disadvantage of requesting a 30 percent rate increase in Year one, but then does not request another rate increase for five years, and then only 3.5% a year thereafter.

Conclusion:

Scenario B is recommended because it generates enough capital to make \$7.6 million of improvements to sewer lines within five years. \$7.1 million would also be available to make improvements to pump stations or the NCI in the first five years with another \$4.2 million in the last five years. Initial rate increases are phased over two years, providing some notice for residents and businesses and allowing time for the City Council to review the results of the pump station assessment and NCI study before the second rate increase is implemented. This scenario also has the advantage of keeping the City's rates competitive with the South Coast Water District and maintaining parity within the City.

Recommendation: That the City Council direct staff to send out the appropriate notices to increase sewer rates 10% a year, for the next two years, to fund improvements to the sewer system.

If the City Council agrees with Scenario B, staff should also be directed to submit a loan application to the San Diego Regional Water Quality Control Board to get on the priority list for funding.

Recommendation: Direct staff to submit a loan application to borrow \$11 million dollars in State Revolving Loan Funds for improvements to the sewer system.

VIII. Summary of Recommended Actions

It is recommended that the City Council direct staff to take the following actions:

1. Adopt the Mission Statement for the Sewer System Strategic Plan as described herein.
2. Prepare a report for City Council consideration in September 2002 to discuss alternatives to address roots in private laterals.
3. Pursue the adoption of a policy to control grease in the sewer system.
4. Review construction specifications and inspection procedures to determine what additional steps are necessary to mitigate potential spills during construction projects and report back to the City Council in July 2002.
5. Program \$10,000 into the proposed Capital Improvement Program to add alarms for Heisler Park and the Animal Control Shelter.
6. Program \$50,000 into FY 2002-03 proposed budget to hire an engineering firm to review the recommendations in the pump stations assessment report and provide a prioritization of needed repairs with valid cost estimates by February 2003.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

7. Include \$100,000 in the proposed Capital Improvement Program for FY 2002/03 to study alternatives for the eventual replacement of the North Coast Interceptor or construction of a parallel line.
8. Purchase repair kits and parts for the North Coast Interceptor as soon as possible.
9. Include \$8,000 of funding in the proposed FY 2002/03 budget to cover the cost of materials, tuition, etc., for sewer division employees to obtain CWEA certifications and attend training opportunities.
- ~~10. Include \$7,000 in the proposed FY 2002/03 Budget for a citywide mailer to all residents and businesses describing activities to fix the sewer system and best management practices customers can follow.~~
11. Implement a Computerized Maintenance Management System by July 31, 2002.
12. Include \$10,000 in the proposed budget to provide for maintenance and use of the sewer Geographic Information System.
13. Prepare a policy for consideration by the City Council, by June 1, 2002, regarding a housing assistance program to locate four sewer service employees in the City.
14. Program ~~\$1.8~~ **\$1.75** million dollars into the proposed CIP to make the line rehabilitation improvements as noted on Attachment XVI.
- ~~15. Plan to build up a minimum 10% operating reserve for the Sewer Fund within five years.~~
- ~~16. Revise the current year CIP to reflect the changes noted in Scenario B to fund a study of the NCI and pump stations, and to fund sewer improvements associated with the Laguna Canyon Channel project.~~ **Revise the current year budget to reflect the changes noted on Attachment B to this Agenda Bill.**
17. Send out the appropriate notices to increase sewer rates 10% a year, for the next two years, to fund improvements to the sewer system.
18. Submit a loan application to borrow \$11 million dollars in State Revolving Loan Funds for improvements to the sewer system.

NOTE: On March 19, 2002, the City Council approved Recommendations number 1-9, 11-14 and 16-18, with revisions noted by ~~strikeout~~ and **bolding**. An additional recommendation number 19 was approved to set a public hearing on the proposed sewer rate increases, which is June 18, 2002.

City of Laguna Beach
Strategic Plan for Improvement of the Sanitary Sewer System

Attachments by number:

- I. 5 Year Sewer Spill History
- II. Grease Control Policy Documents
- III. Description Of Sewer Lines In System
- IV. Assessment Of Pump Stations By Supervisors In Sewer Division
- V. North Coast Interceptor Assessment By The City Public Works Director/Engineer
- VI. Sewer Division Organization Chart
- VII. Executive Summary From Bucknam And Associates Report
- VIII. Map Of The City's Televising And Cleaning Program Schedule
- IX. Sanitary Sewer Overflow Prevention Plan
- X. Sanitary Sewer Overflow Response Plan
- XI. Capacity, Management, Operation And Maintenance Programs (CMOM) Information
- XII. Governmental Accounting Standards Board (GASB) 34
- XIII. Nuisance Water Diversion Units List – Current And Planned
- XIV. Description of Line Ranking Program
- XV. Map Of Line Rankings Overlaid With Spills, Repairs and Age Of Lines
- XVI. Map Showing Recommended Rehabilitation Areas
- XVII. 20 Year SOCWA Capital Improvement Program
- XVIII. Chart Of CIP Expenditures Since 1967
- XIX. Most Recent Six Year Expenditure History
- XX. FY 2001-02 Sewer Fund Budget
- XXI. Financial Scenario A
- XXII. Financial Scenario B
- XXIII. Financial Scenario C