MEETING DATE: 02/25/08

AGENDA ITEM: Approval of Professional Service Contract with Psomas for an Engineering Study to Determine the Feasibility of Consolidating the City's Sewer Pump Stations, P-875

ATTACHMENTS

		Pages
1	Copy of Psomas' proposal	1-43
2	Location map of the sewer pump stations	44

PSOMAS

January 31, 2008 *(Revised February 19, 2008)*

Mr. Mate Gaspar, PE, Engineering Services Manager
CITY OF CULVER CITY
Engineering Division; 2nd Floor
9770 Culver Boulevard
Culver City, CA 90232

Subject: Proposal for Engineering Services for Sewer Pump Stations Consolidation Feasibility Study

Dear Mr. Gaspar:

There are many excellent reasons to study the feasibility of consolidating the City's sewer pump stations including the recently enacted stringent Regional Water Quality Control Board Waste Discharge Requirements, rising energy costs, additional staffing and safety demands, and escalating operation and maintenance costs. Given these many concerns, you and your fellow City staff members are to be commended for taking the initiative to reduce overall sewer system operating costs by studying the feasibility of eliminating some of the City's existing sewer pump stations.

Psomas staff will provide the kind of creative, economical, and technically sound solutions you are looking for on this project. To begin that process, we have already started familiarizing ourselves with the specific goals and objectives for this project by:

- Visiting all seven pump station sites following our attendance at the pre-proposal meeting;
- Visiting other key sites including the Ballona and Centinela Creek Channels;
- Touring all seven pump stations accompanied by City maintenance staff;
- Obtaining and reviewing the City's As-Built Drawings for all seven pumping stations;
- Reviewing the City's 2006 – 2009 Recommended Capital Improvement Projects; and
- Reviewing the City's Sewer Access System Online Interactive GIS.

In addition to initiating work on the above-noted tasks, our project team has also completed many similar assignments for other municipalities throughout California. I was instrumental in the preparation of the City's most recent sewer master plan and will use the knowledge gained in that earlier effort in my role as project manager on this new assignment. In doing so, I will head our team of expert staff and will use my 34 years of experience to benefit the City. I pledge our team's commitment in providing competitively priced and quality professional services, something Psomas has done throughout our 61-year history.

If you have any questions about our submittal, or if I can be of any additional assistance, please call me at (714) 751-7373.

Respectfully submitted,

PSOMAS

Harvey R. Gobas, PE
Vice-President/Project Manager

3187 Red Hill Avenue
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Costa Mesa, CA 92626

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714.545.8883 Fax
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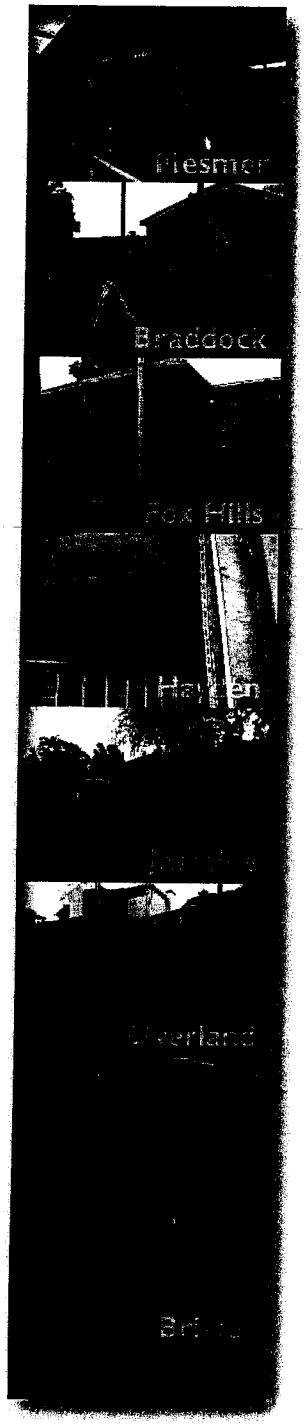

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- Project Understanding
- Project Approach

Scope of Services
- Scope of Services
- Project Schedule

Project Team
- Organization Chart
- Project Team
- Résumés

Relevant Experience/References

Fee Proposal

Claim History

Proof of Insurance

Project Understanding

The City of Culver City (City) desires to determine the feasibility of consolidating their seven (7) sewer pump stations. To accomplish this task, Psomas will provide a comprehensive feasibility report presenting multiple options for removal of the existing sewer pump stations, and design and construction of new facilities necessary to convey flows to the City of Los Angeles for treatment.

Psomas knows the City...

Harvey Gobas, PE, was instrumental in the preparation of the City's most recent sewer master plan.

Understanding Culver City's needs will be the most important ingredient in providing creative, economical, and technically sound solutions to meet your project goals and objectives. A clear understanding of the City's needs, and Psomas' role in meeting them, is also required to provide engineering services in an efficient manner to meet budget and schedule requirements.

To develop a clear understanding of the specific goals and objectives for this project, Psomas has:

- Reviewed the RFP.
- Attended the City's non-mandatory pre-proposal meeting with Charles Herbertson (Public Works Director/City Engineer), Gabe Garcia (Traffic Engineering Manager), Steven Finton (Senior Civil Engineer), Kaden Young (Assistant Engineer/NPDES Program Manager) and members of the City's Operations and Maintenance staff.
- Visited all seven of the pump station sites unescorted following the pre-proposal meeting.
- Visited key topographical features including the Ballona and Centinela Creek Channels.
- Toured all seven of the pump station facilities and discussed the operational and maintenance issues with Benny Tenorio (Operations and Maintenance).
- Obtained and reviewed the City's As-Built Drawings for all seven pumping stations.
- Obtained and reviewed the results of the City's 2004 Traffic Count Program.
- Reviewed the City's 2006 – 2009 Capital Improvement Projects.
- Reviewed the City's Sewer Access System Online Interactive GIS.

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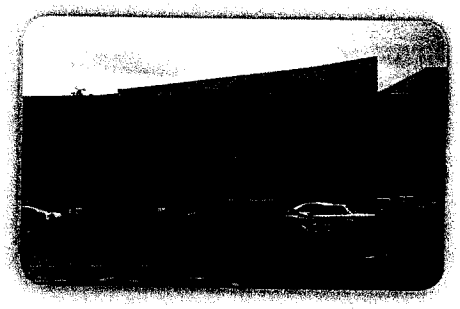
Project Approach

Project Kick-Off and Management Meeting

A kick-off meeting will be chaired by Psomas to ensure the project gets off to a smooth start. The Psomas Team and City staff will discuss the goals and objectives, lines and methods of communication, scope and flow of work throughout the project including deliverables, and responsibilities of the various team members.



Bi-weekly project status meetings at the City's office will be held at a convenient, regularly scheduled time. When the attendance of other key City staff, such as maintenance personnel, is required, we will be sure Mate Gaspar (the City's Engineering Services Manager) is notified well in advance so their attendance can be assured. Psomas will prepare and distribute agendas prior to each meeting and prepare and submit minutes for City staff review and comment within five (5) working days following each meeting.

QA/QC Process and Program

The Psomas quality assurance/quality control (QA/QC) program will follow our standard "16-Point" policies, procedures, and internal documentation plan. This plan begins during the initial proposal and budget phase and concludes with the project closeout. The plan also includes ongoing quality assurance with our "Checkmate" system, which documents all technical aspects of the project, assuring accountability. The project's QA/QC manager will be Mr. Joe Boyle, P.E.

Key QA/QC junctures throughout the project delivery phase include:

- Completion of the draft report
- Completion of the final report
- Final electronic CD-ROM submittal.

Mr. Boyle is one of our highly experienced, in-house experts in the wastewater conveyance field and will not otherwise be involved in the day-to-day aspects of this project.

Preliminary Investigations

Mapping Procurement and Review

While a large amount of the sewer system information can be obtained through the City's Interactive Online GIS, Psomas will still need to acquire Record Drawings (As-Builts) for the pipelines and pumping stations not found on-line, GIS base files for the pipelines and manholes, and Atlas Maps.

In addition, we will obtain the appropriate local storm drain facility information including the Ballona Creek trapezoidal and Centinela Creek rectangular channels. Storm drain facilities are one of the most common sources of new sewer pipeline alignment conflicts. They are typically large, occupy similar depth, and cannot be easily relocated.

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Staffing Interviews

We have discovered one of the best resources any agency has is their staff. Masses of information, experience, ideas, desires, and expectations are too commonly overlooked and never communicated due to the fact they are not physically recorded. Therefore, Psomas will schedule (during one of the bi-weekly progress meetings) an open "Questions and Answers" session with the appropriate City staff members.

Field Investigations

Based upon our experience on similar projects, Psomas believes a complete understanding of the City's facilities and overall system is an extremely important element of this study. Psomas has already visited each of the City's seven pumping stations multiple times to gain a thorough understanding of their operation and physical layouts. Additionally, we have visited multiple "key" locations in the City which we anticipate may play an important role in recommending future pipeline alignments. This advanced work will allow us to hit the ground running.

Survey

Our in-house professional surveyors will establish the vertical control necessary to ensure each pump station and major topographical surface feature is coordinated into a single vertical plane (datum).

- **Survey Control:** Psomas will use GPS technology to establish a pair of survey control points at each of the seven sites. This control will be used as the basis for the fieldwork to be performed. All survey work will be related to the survey control established by Culver City in 1999, according to the Record of Survey filed in Book 164, Pages 42-45. The horizontal datum will be based on the North American Datum of 1983 (NAD 83). Elevations will be based on the North American Vertical Datum of 1988 (NAVD 88).
- **Pump Station Surveys:** Psomas will employ the survey control established above and survey the rim and invert elevations on the following inlet manholes at each site:
  - *Braddock:* One (1) manhole adjacent to northeast curb return at the intersection of Braddock Drive and Sawtelle Boulevard.
  - *Bristol:* Two (2) manholes on the pump station site adjacent to the CMU block control building.
  - *Fox Hills:* One (1) 30-foot deep manhole along the curb-line immediately outside the pump station site in the mall parking lot.
  - *Hayden:* One (1) manhole immediately outside the chain link gate surrounding the station located in a commercial center parking lot.

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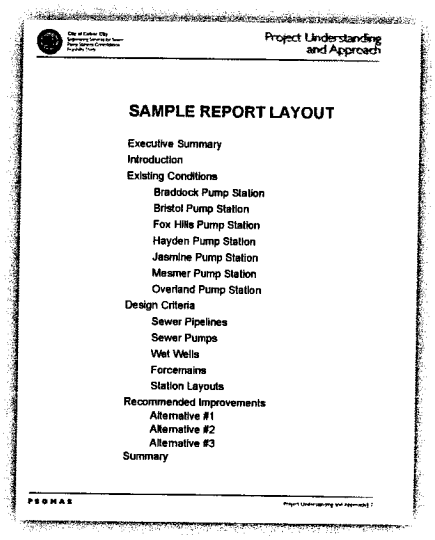
- *Jasmine:* One (1) manhole on the pump station site located behind the vacant house.
- *Mesmer:* Three (3) manholes, two of which are located in the driveway immediately outside the pump station site. The third manhole is off-site across the Centinela Creek Channel in the Caltrans right-of-way.
- *Overland:* Two (2) manholes in the curb-line of Overland Avenue adjacent to the pump station site.

Psomas will perform conventional surveys to locate horizontal and vertical locations of the above manholes. Once the fieldwork is complete, the survey data will be reduced, imported and plotted into a CADD drawing. Each manhole rim and invert elevation will be labeled with its respective point number, elevation and description.

- **Elevations at Strategic Locations:** There are an estimated three (3) areas throughout the City requiring survey investigation to determine elevations at key pipeline crossing locations. Such locations will likely include Ballona and Centinela Creek crossings, where the bottom of channel will need to be determined. Though the exact scope of these three locations is not known at this point, this proposal includes one (1) day of field work, together with the related office services for each site.


Project Understanding and Approach

SAMPLE REPORT LAYOUT

Executive Summary
Introduction
Existing Conditions
- Braddock Pump Station
- Bristol Pump Station
- Fox Hills Pump Station
- Hayden Pump Station
- Jasmine Pump Station
- Mesmer Pump Station
- Overland Pump Station

Design Criteria
- Sewer Pipelines
- Sewer Pumps
- Wet Wells
- Forcemains
- Station Layouts

Recommended Improvements
- Alternative #1
- Alternative #2
- Alternative #3

Summary

PSOMAS

Master Plan Review

Psomas will review the City's 1995 Sewer Master Plan to determine the status of the recommended capital improvements and how they may impact the consolidation efforts of this project. The results and system design criteria presented in this document will be taken into consideration prior to making the recommendations of this study.

Sewer Pump Station Consolidation Feasibility Study Report

An outline of the Sewer Pump Station Consolidation Feasibility Study Report (SPSCFS) will be prepared and submitted to City staff for review and approval. We anticipate discussing this outline at an appropriately timed bi-weekly status meeting where comments will be obtained and the outline amended to reflect these comments. A draft of the SPSCFS will be prepared with multi-color exhibits and maps, tables and text describing the results of the study and corresponding recommendations. The draft will be reviewed by City staff and a final report will then be prepared addressing all comments.

Based on the information obtained at the pre-proposal meeting, multiple site visits, discussions with City staff and our experience on similar and related projects, we have developed a list of important elements necessary for the successful completion of this study:

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System Hydraulics

The hydraulics of the City's sewer collection system is directly affected by a few major items: topology, land use, and physical obstructions and/or conflicts. The City of Culver City topology generally slopes from northeast to southwest and is bisected by the Ballona Creek Channel. Other major obstructions include the Centinela Creek Channel, the I-405 and SR-90 freeways, and MWD, City of Los Angeles, County of Los Angeles, and storm drain facilities. All of these present challenges in maintaining gravity flows on a city-wide basis. Therefore, the City has constructed sewer pump stations, force mains and inverted siphons to mitigate these items.

Psomas will evaluate these challenges while analyzing the physical attributes of the sewer collection system and determine the feasibility of eliminating, or at minimum, optimizing these existing facilities. Alternatively, Psomas will evaluate the possibility of the construction of emergency bypass facilities for system redundancy in the event of a major pump station failure.

Recommendations and Capital Improvements

The results of our analysis will generate three (3) alternatives and associated capital improvements including a construction cost opinion suitable for use for budgeting purposes for each of the City's seven sewer pump stations. These will take into account the various concerns communicated by City staff. Following is a list of specific items to be addressed:

- **Shut-Down Phasing Plan:** A sewer system capital improvement phasing plan will be necessary to consolidate the pumping stations and construct new pipelines. Based upon the recommendations of this study, Psomas will provide a simplified plan specifying the necessary sequence of events to complete recommended improvements.
- **City Property Abandonment Plan:** The existing sewer pumping stations occupy valuable real estate. Therefore, a plan must be developed to determine the fate of the remaining property upon the removal of the City's sewer pumping stations. Due to differences in size, neighborhood, condition and other special features of each of the seven pump station sites, Psomas will make specific recommendations for each site. Our initial thoughts are to sell the smaller sites such as Braddock, Hayden, Overland and Bristol Pump Stations while retaining the larger Mesmer Pump Station site for a proposed City Yard (and its close proximity to the potential regional pump station location at Fox Hills). We will also likely recommend selling the Jasmine Pump Station site since it has a functioning house already on the property.
- **Future System Connections and Redundancy:** Psomas will identify future sewer system outfall connections to the City of Los Angeles and Los Angeles County Sanitation District to provide operational reliability and flexibility. This will include the feasibility of constructing multiple redundant force mains, auxiliary pumping connections to existing and future force mains, and gravity bypass connections at the pump stations. These improvements will all be quantified through risk analysis.

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- **Proposed Pipeline Alignment Analysis:** Upon determining the inlet elevations of each pumping station, Psomas will formulate pipeline alignment recommendations while considering topology, bridges, Ballona and Centinela Creeks, I-405 and SR-90, and traffic congestion (using the City's 2004 Traffic Count Data or latest version thereof).

- **Proposed Pump Station Location:** The intent of this study is to determine the extent to which the City can consolidate its seven sewer collection system pumping stations. A result of consolidation of the pumping stations will be the need for a new regional pump station. Psomas will recommend site locations for this new station. Specific items to consider will include existing land owned by the City, the availability of expanding one of the existing pump station sites, proximity to residential neighborhoods, bodies of water, odor and safety concerns.
- **Known Required System Improvements:** In addition to evaluating the feasibility of consolidating the sewer pumping stations, it will also be important to include existing required improvements already identified by the City through previous studies, analysis and maintenance records. Specific common items are fats, oils and grease (FOG) "hot spots," inflow and infiltration (I/I), shallow groundwater, and localized known issues requiring lining, point repairs, or open cut replacement of pipeline segments. Psomas will determine which are the applicable improvements and incorporate them into the recommendations of this study.

Economic Analysis and Impacts

Psomas will evaluate the feasibility of initiating capital improvements to the City's sewer collection system to eliminate sewer pumping stations, and thus, improve system redundancy and reliability. However, an important component of such an analysis is the associated financial impacts. Therefore, as part our study, Psomas will assess the recommended capital improvements through a cost/benefit analysis with special attention paid to the projected long-term operational savings. Psomas will obtain current and historical operational and maintenance cost data as a benchmark for comparison and a tool to establish projected costs.

Three (3) copies of the draft and five (5) copies of the final report as well as electronic PDF versions of each will be provided. All survey and other data files will also be delivered with the final report.

SAMPLE REPORT LAYOUT

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- Alternative #1
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- Alternative #3

Summary

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Scope of Services

1) Project Management

- **Kick-Off Meeting:** Attend a kick-off meeting to discuss approach, scope, schedule, lines of communication, etc.
- **Bi-Weekly Project Status Meetings:** Prepare for and attend up to six (6) bi-weekly project status meetings to review progress, review and discuss deliverables, and review upcoming work schedule and project budget. Psomas will coordinate and schedule these meetings, prepare agenda, and submit meeting minutes for review and approval by City staff.
- **QA/QC:** Quality will be maintained throughout the project and the QA/QC manager will review all submittals prior to delivery.

2) Preliminary Investigations

- **Data Acquisition and Investigations:** Research and compile existing mapping information necessary, prepare for and facilitate staffing interviews and conduct one (1) supplementary site visit.
- **Survey:** Use GPS technology to establish survey control, determine the inlet invert elevations for all seven pump stations, and provide surface elevations at three (3) sites to be specified during the project.
- **Master Plan Review:** Review for incorporation of pertinent elements into the Consolidation Feasibility Study Report.

3) Sewer Pump Station Consolidation Feasibility Study Report (SPSCFS)

- **Prepare Draft SPSCFS Report:** The draft SPSCFS report will explain and include multi-color exhibits, maps and tables describing the results of the study, recommended pipeline alignments and sizes, and locations of the new pump station. Elements of this report will include:
  - *System Hydraulics:* Evaluate the physical attributes of the sewer collection system and determine feasibility of elimination of the seven pump stations.
  - *Recommended Capital Improvements:* Evaluate the results of the system hydraulics and prepare the corresponding capital improvement recommendations. In addition to the hydraulics, the basis of these recommendations will include a Shut-Down Phasing Plan, City Property Abandonment Plan, Future System Connections and Redundancy, Proposed Pipeline Alignment Analysis, Proposed Pump Station Location, and Known Required System Improvements.
  - *Economic Analysis and Impacts:* Evaluate the feasibility of initiating capital improvements to the City's sewer collection system.

  Prepare and submit three (3) copies of the draft SPSCFS report including appendices, exhibits and one (1) PDF copy on a compact disc to the City for review and comment.

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- **Prepare Final SPSCFS Report:** Review draft SPSCFS report with the City staff and finalize report based on comments. Prepare and submit five (5) copies of the final report, exhibits and a complete PDF copy on a compact disc.

4) Optional Scope Items

- **Hydraulic Modeling:** For similar types of projects the development of a skeletonized hydraulic computer model consisting of the City's collection system trunks between the seven pumping stations to simulate how the system will respond to future modifications has proven invaluable. Therefore, Psomas strongly recommends the City consider adding this and the associated Flow Monitoring optional scope item to this study.

  The hydraulic model will help determine peak flow rates, new pipe, wet well, and pump sizes. These will be accomplished by establishing appropriate diurnal curves and analyzing how the peak flows are attenuated downstream. This will be a key element in effectively sizing a regional sewer pumping station.

  Psomas offers a significant benefit to the City of owning multiple hydraulic modeling software packages as well as trained staff. This relieves the City of the financial burden of purchasing the costly software itself. These software packages are recent versions representing the most technologically advanced in the industry. They offer the flexibility of exporting the model results in multiple data configurations beyond the inherent software format including Excel and GIS Shapefiles. Psomas will deliver the model in any of the above formats on compact disc.

  We will retain a digital copy of the hydraulic model in the event the City would like us to apply future updates to the system. These additional updates are considered beyond the scope of this proposal and can be provided at a time and materials basis under our current "On-Call" contract.

- **Flow Monitoring:** Similar to the optional hydraulic modeling task above, flow monitoring is critical to the analysis of a sewer collection system. Psomas observed electromagnetic flow monitoring devices installed on the force mains (outflow) of six of the seven sewer pump stations. While these devices provide important information, the critical element of a gravity system is the pattern (diurnal curve) of the inflow. This pattern represents the higher flows typically observed during the daytime hours when residents are awake and businesses are open and the lower flows during the late night and early morning hours (see Figures 1 and 2 on the following page).

  Understanding the diurnal patterns is the key to understanding sewer pipeline and wet well design. Therefore, to effectively specify these items we recommend monitoring the flows at the inlets of each of the seven pump stations (11 temporary flow monitoring devices) for a 7-day duration. Upon the completion of this period the data will be downloaded and reduced into spreadsheets for analysis. A copy of this information will be included in the Appendix of the SPSCFS Report and the raw flow meter information will be provided on a compact disc.

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- **City Council Presentation:** Psomas will attend a meeting to present an overview of the project to the City Council. We will prepare appropriate material for the meeting including either poster boards or a PowerPoint presentation depicting the proposed recommendations and summarizing key project issues. Issues to be addressed will include the expected impacts of health and safety, odor reduction/ elimination, spill prevention, the environment, public perception, maintenance and associated hard and soft costs.

5) Assumptions

In developing the scope of services, we have made the following assumptions:

- No confined space entry will be performed.
- No potholing will be performed.
- No design plans and/or design survey will be provided.
- No geotechnical analysis will be performed.
- The City will provide all necessary utility information.
- All encroachment permits will be provided at no cost to Psomas.

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Figure 1: Typical Residential Diurnal Curve

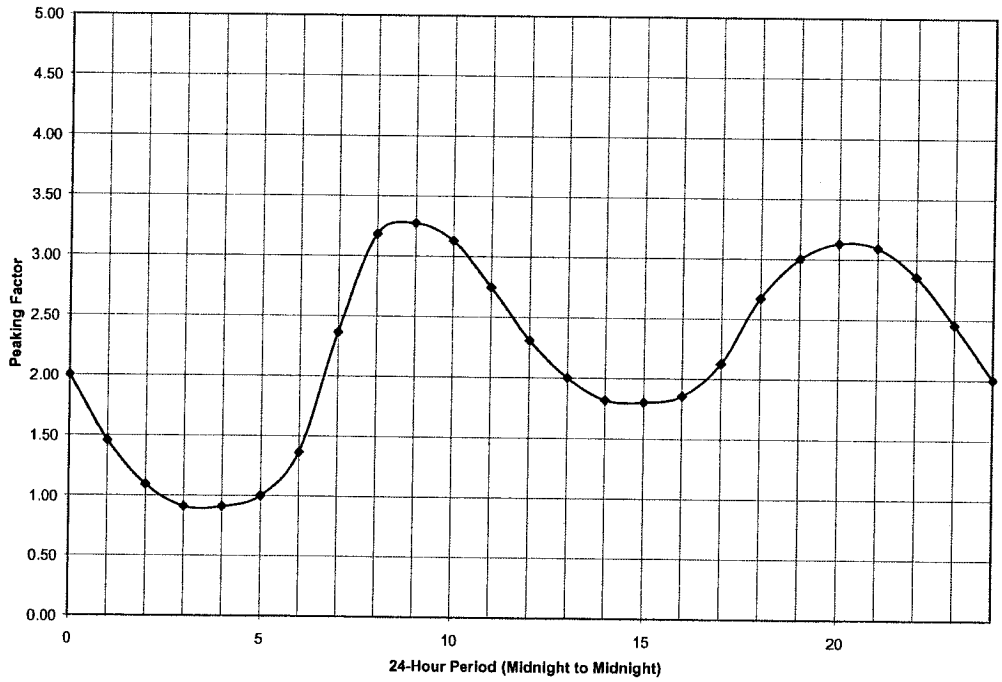
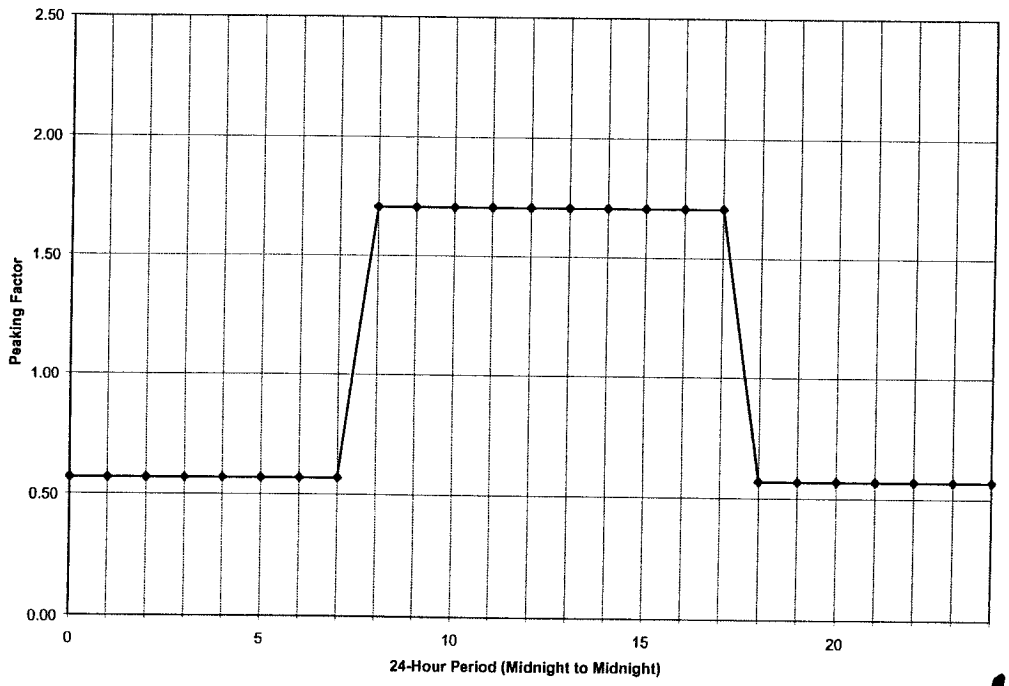


Figure 2: Typical Non-Residential Diurnal Curve



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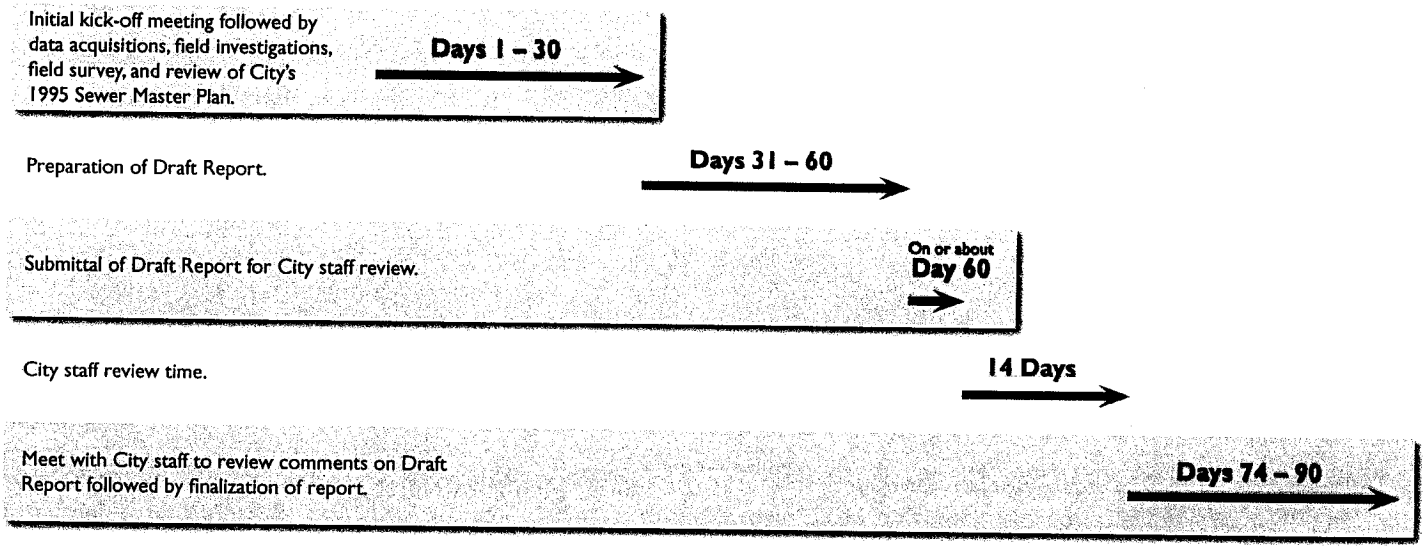
Schedule

We envision completion of all tasks described in the Scope of Work within three (3) calendar months from receipt of a fully executed Professional Services Agreement and a Notice to Proceed. This proposed schedule can be further detailed as follows (all days are calendar days):



Please note that incorporation of any of the optional items described in the Scope of Work will necessitate additional time for modeling, flow monitoring or Council presentations, as required.

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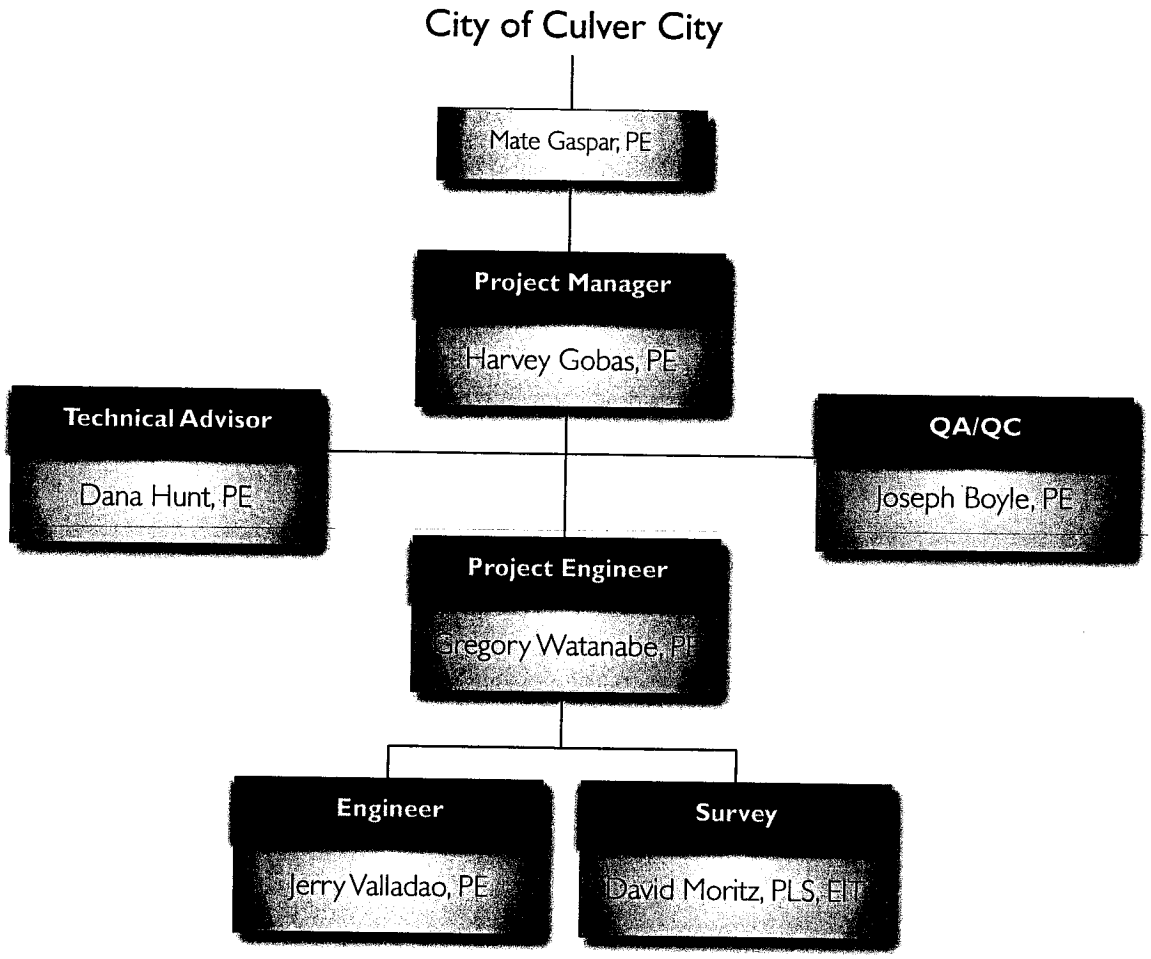
Organization Chart



Project Team

The Psomas Team has been organized specifically to address the unique requirements of this contract for a sewer consolidation study in the City of Culver City. Psomas has assembled a team to provide the full range of engineering capabilities and specialty services suitable for the type of sewer feasibility study described in the City's Request for Proposal.

In assigning personnel for key positions on our team, we have selected individuals who have proven track records in successfully delivering similar sanitary sewer projects through the planning, design and construction phases. The result is a team with precisely the expertise needed to solve the particular issues of this project, and the experienced know-how to anticipate your needs and deliver the specific work products that are required, within the project's timeline.

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All Psomas team members proposed for the City's project are available to start work immediately upon Notice to Proceed. The projected start date of the City's sewer pump station consolidation study coincides with the conclusion of several projects in which the proposed team has been recently involved, so the time is right for Psomas to address the City's needs for this project.

Harvey Gobas, PE — *Project Manager*

Psomas' proposed Project Manager is Harvey Gobas, PE. Mr. Gobas has more than 34 years of experience in water and wastewater system planning, design, contract administration, and project management. He previously served as Principal-in-Charge for preparation of Culver City's comprehensive Sewer Master Plan and associated computer modeling of the City's sewer system, including recommendations for capital improvements. Harvey also served as Principal-in-Charge for a sewer assessment and rehabilitation design recommendations for the City of West Hollywood. This project involved preparation of a detailed condition assessment for several miles of sewer in West Hollywood including review of extensive CCTV work and recommendations for point repairs, lining or other appropriate rehabilitation. Most recently, Mr. Gobas has served as Project Manager for the Katella Avenue Sewer Design project, and the Orangewood and Mountain View Sewer Pipeline project (Model 13 and 51), both for the City of Anaheim.

Dana Hunt, PE — *Technical Advisor*

Ms. Hunt has over 14 years of experience in the evaluation, design and construction of pumping facilities. Dana has been involved in the design and construction of more than 30 pumping stations and has studied and evaluated pumping stations and elaborate hydraulic systems for East Bay Municipal Utility District (EBMUD), Central Contra Costa Sanitary District (CCCSD), Monterey Regional Water Pollution Control Agency (MRWPCA), Oro Loma Sanitary District, SRCSD, City of Livermore, City of West Sacramento, and the City of Petaluma. In addition to evaluating and designing pumping stations, Dana has also performed pump station master planning and authored pump station standards.

Joe Boyle, PE — *QA/QC*

Mr. Boyle's qualifications include extensive experience in the evaluation, planning and design of sewer pipeline and lift station projects throughout Southern California. Clients have included the cities of Long Beach, Corona, Dana Point, Newport Beach, La Habra, and Laguna Beach; El Toro Water District; Los Alisos Water District; Moulton Niguel Water District; Santa Margarita Water District; and South Coast Water District. Joe also has extensive experience in planning and design of water transmission, distribution and storage facilities, and preparation of plans and specifications for water main design, storm drain design, and roadway design, as well as construction phase services.

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Greg Watanabe, PE — *Project Engineer*

Mr. Watanabe has over 10 years of planning, design, and utility system study and analysis experience. His emphasis has been in master planning, hydraulic system modeling, and design of sewer pipeline and pump station projects. From the projects Mr. Watanabe has completed, he has acquired experience in ArcGIS, ArcView GIS, AutoCAD, Flow Master, H2OMAP, H20NET, Hydra, Land Desktop, MicroStation, SewerCAD, Softdesk, WaterCAD, and others. Mr. Watanabe has also written computer software tools to aid in pipeline analysis and design. Mr. Watanabe's relevant experience includes serving as project manager for the Oakhurst Drive Sewer Study for the City of Beverly Hills, and project manager or engineer for sewer studies and master plans for the cities of Beverly, Hills, Simi Valley, Anaheim, Laguna Beach, and San Bernardino; Azusa Pacific University; Los Angeles Harbor College; Los Angeles Mission College, Los Angeles Pierce College; East Valley Water District; Elsinore Valley Municipal Water District; Santiago County Water District; and Trabuco Canyon Water District.

Jerry Valladao, PE — *Engineer*

Mr. Valladao has over 10 years of experience in the planning, design, and construction of water and wastewater facility projects. He has worked on over a dozen pump station designs including SRCSD's New Natomas and South River Pumping Station, the Pond Influent Pump Station for the City of Petaluma, the Orinda Crossroads, Moraga and Lower Orinda Pumping Stations for Central Contra Costa Sanitary District, and most recently the West Sacramento's Pump Stations Project. Jerry has considerable experience in hydraulics and piping and pumping analysis and design. Jerry's most recent, relevant experience includes serving as project engineer for the City of Pacific Grove's Pump Station Master Plan.

Dave Moritz, PLS — *Surveyor*

Mr. Moritz has over 17 years of experience in the analysis, design, preparation, and drafting of design surveys, right-of-way base mapping, Records of Survey, legal descriptions, and ALTA surveys. His responsibilities include performing survey research and boundary analysis; preparing project reports, budgets, and scopes; reviewing easements and title reports; and overseeing mapping production. Mr. Moritz is also involved in coordination and oversight of work with project owners and in-house civil engineers. Dave's most recent, relevant experience involves serving as survey manager for the Katella Avenue, Orangewood Avenue and Mountain View Avenue Sewer Design projects for the City of Anaheim.

Harvey Gobas, PE

Project Manager

Education

BS/1972/Civil Engineering/ University of Southern California

MS/1975/Environmental Engineering/University of Southern California

Risk Assessment Methodology for Water (RAM-WSM) Training, May 16-18, 2002

Registration

1976/Professional Engineer/CA #C26533

Affiliations

American Society of Civil Engineers (ASCE):

- President, Los Angeles Section (2002-2003)
- President Orange County Branch ASCE, 1986-87
- Vice President Los Angeles Section ASCE, 1990-91
- Vice-Chair, National Committee on Employment of Civil Engineers, 1998-2001

American Public Works Association (APWA):

- Chair of APWA Municipal Engineering Committee, 1986-1998
- Member Board of Directors and Past President, Southern California Chapter, 1998-present

Consulting Engineers and Land Surveyors of California (CELSOC):

- Board Member, Los Angeles County Chapter, 1993-1995
- Chair, CELSOC/City of Los Angeles Liaison Committee, 1992-2002

American Water Works Association (AWWA) – Members since 1980

Experience

With Psomas for 4 years; with other firms for 30 years

Mr. Gobas has more than 34 years of experience in water resource and reclamation system planning, design, contract administration, and project management (including numerous major water reclamation and water distribution system projects) and preparation of water system vulnerability assessments. He has served as district engineer for four different Southern California water districts (simultaneous district assignments equate to a total of over 50 years), and is a former President of the ASCE Los Angeles Section and the APWA Southern California Chapter. He is also a former Board of Supervisors' appointee to the Los Angeles County Water Advisory Commission.

Mr. Gobas has made numerous presentations on various projects at AWWA, ASCE, WEF, APWA, and various local and regional water association meetings and at in-house training sessions. He has also completed formal training in Sandia National Laboratory's RAM-WSM methodology.

Relevant Project Experience

Sewer Master Plan, City of Culver City, CA: Principal-in-Charge for preparation of a comprehensive sewer master plan and associated computer modeling of the City's sewer system including preparation of recommended capital improvements.

Sewer Assessment and Rehabilitation Design Recommendations, City of West Hollywood, CA: Principal-in-Charge for preparation of a detailed condition assessment for several miles of sewer in West Hollywood including review of extensive CCTV work and recommendations for point repairs, lining or other appropriate rehabilitation.

Sewer Master Plan, City of West Hollywood, CA: Project Manager/Principal-in-Charge for preparation of a sewer master plan and computer model for this Los Angeles suburb with a population of 37,000.

Katella Avenue Sewer Design, City of Anaheim, CA: Project Manager for the design of approximately 1¼ miles of 15-inch VCP sewer pipeline that replaced existing City sewers that were undersized. The alignment made connections to the Garden Grove Sanitary District and traversed through unincorporated areas of the County of Orange. In addition, this project was scheduled to be constructed with the Katella Avenue Smart Street Project for both the City of Anaheim and the County of Orange. These unique design tasks required the close collaboration and coordination with multiple agencies and design consultants.

Orangewood and Mountain View Sewer Pipeline: Model 13 and 51, City of Anaheim, CA: Project Manager for design of approximately 6,500 LF of 15-inch to 21-inch diameter sewer pipelines in Orangewood Avenue and Mountain View Avenue, including a 12-inch inverted siphon; jack and bore construction of a steel casing under an existing large reinforced concrete box storm drain structure; and upsizing of an existing 39-inch Orange County Sanitation District (OCSD) Newhope Placentia Trunk Sewer connection.

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— Continued —

Harvey Gobas, PE

Project Manager

SMURRF Stormwater Treatment Plant Operational Assessment, City of Santa Monica, CA: Project Manager for operational assessment of Santa Monica Urban Runoff Reclamation Facility (SMURRF) after five years of operation. Project included evaluation and recommendations for modifying treatment plant components, pumps, flow meters, reservoirs and other appurtenances at a 0.5 MGD stormwater treatement plant. Additional elements including addressing water quality issues associated with ponding on the beach and overflows to Santa Monica Bay.

Sunset Pumping Plant and Force Main, City of Los Angeles, CA: Project Manager/ Principal-in-Charge for this $15 million project involving design of a new lift station, rehabilitation of two other lift stations, design of three miles of force main, a large underground concrete detention basin, and Corps of Engineers approved shore protection facilities.

Broadway Avenue Sewer Improvements Peer Review, City of Laguna Beach, CA: Project Manager for review of proposed plans and specifications for relocation of existing sewer in congested Broadway Avenue necessitated by construction of a major box culvert. Reviewed alternatives including gravity and pumped systems, evaluated costs and community disruption and made recommendations for mitigating proposed project impacts.

Alignment Study for Major Trunk Sewer, County Sanitation Districts of Los Angeles County, CA: Project Manager/Principal-in-Charge for evaluation of several alternative alignments for a new 96-inch trunk sewer for the Districts.

Comprehensive Sewer System Master Plan and Management Program, Long Beach Water Department, Long Beach, CA: Project Manager/Principal-in-Charge for this project which involved preparation of a detailed downtown area sewer master plan and city-wide trunk system master plan, including detailed sewer hydraulic analyses of 28 miles of sewage piping. The work included feasibility study level analyses of needed alternatives and development of prioritized capital improvement plan.

Sunset Boulevard Sewer Rehabilitation Project, City of West Hollywood, CA: Project Manager/Principal-in-Charge for evaluation of sewer rehabilitation needs for 8,700 feet of 70- to 80-year-old sewer in Sunset Boulevard and design of requisite improvements.

Sewer Master Plan Peer Review, City of South Gate, CA: Project Manager/Principal-in-Charge for peer review of a sewer master plan prepared by another consultant.

Sewer Rehabilitation Plans and Specifications Peer Review, City of Santa Monica, CA: Project Manager/Principal-in-Charge for review of the City's proposed plans and specifications for sewer system retrofit (in the wake of the Northridge Earthquake) and upgrade including evaluation of alternative materials.

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Dana Hunt, PE

Technical Advisor

Education

BS/1991/Civil Engineering/
University of Minnesota

Registration

1995/Professional Engineer/CA
#53326

Affiliations

American Water Works Association

California Water Pollution Control Association

Water Environment Federation

Experience

With Dodson Psomas for 15 years *(merged with Psomas Jan. 2007)*

Ms. Hunt has more than 15 years of diversified experience in the planning and design of water and wastewater facility projects. Ms. Hunt's areas of specialization include water, wastewater, recycled water and storm water; specializing in wastewater treatment, water treatment, pipeline design and pump station design.

Relevant Project Experience

Wastewater Pump Station Master Plan, City of Pacific Grove, CA: Prepared Wastewater Pump Station Master Plan for the City's collection system.

Pump Station Improvements Project, City of West Sacramento, CA: Study and design of improvements of eleven (11) wastewater pump stations.

Ord Village Pump Station Analysis Report—Monterey Regional Water Pollution Control Agency, Marina, CA: Prepared Marina Coast Water District's Ord Village Pump Station Analysis Report.

"C" Street Pump Station, City of Petaluma, CA: Twelve-MGD raw wastewater pump station.

Northeast Fairfield Pump Station—Fairfield-Suisun Sewer District, Fairfield, CA: Predesign and design of a new raw wastewater pump station to serve new and existing development.

LNWI South River and New Natomas Pump Stations—Sacramento Regional County Sanitary District, Sacramento, CA: Study and Design of New Natomas (168 MGD) and South River (221 MGD) Pump Stations.

Airport Lift Station, City of Livermore, CA: Study and design of Airport Lift Station including gravity sewer and 4,332 LF of 10-inch forcemain.

Pump Station, Gravity Sewer, and Forcemain Design Guidelines—Fairfield-Suisun Sewer District, Fairfield, CA: Author of Pump Station, Gravity Sewer and Forcemain Design Guidelines for use by the District.

Lower Orinda Pumping Station—Central Contra Costa Sanitary District, Orinda, CA: Study and design of 21 MGD Lower Orinda Pumping Station.

Pond Influent Pump Station, City of Petaluma, CA: Study and design of 36 MGD Pond Influent Pump Station.

Moraga and Orinda Crossroads Pump Stations—Central Contra Costa Sanitary District, Moraga and Orinda, CA: Design of upgrade project for Moraga (26 MGD) and Orinda Crossroads (29 MGD) Pumping Stations.

Pump Station Design Guidelines, City of Stockton, CA: Evaluation of water, wastewater, and storm water Pump Station Design Guidelines.

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— Continued —

Dana Hunt, PE

Technical Advisor

West Main Street Pump Station, City of Winters, CA: Study and Design for West Main Street wastewater pump station.

Martinez Pumping Station—Central Contra Costa Sanitary District, Martinez, CA: Design and construction services for Martinez Pumping Station Improvements.

Seaside and Fort Ord Pump Station Improvements—Monterey Regional Water Pollution Control Agency, Seaside and Fort Ord, CA: Study, design and construction services of Seaside and Fort Ord Pump Station Improvements.

Railroad Avenue Lift Station—Oro Loma Sanitary District, San Lorenzo, CA: Design and construction services of Railroad Avenue Lift Station Rehabilitation.

Primary Effluent Pump—Central Contra Costa Sanitary District, Martinez, CA: Design and construction services of 75 MGD Primary Effluent Pump at District's WWTP.

Thousand Oaks Pump Station, City of Modesto, CA: Design and construction services for Thousand Oaks Pump Station.

San Ramon Pump Station—Central Contra Costa Sanitary District, San Ramon, CA: Master Plan for San Ramon Pump Station.

Martinez, Fairview, and Maltby Pump Stations—Central Contra Costa Sanitary District, Martinez, CA: Evaluation of the Martinez, Fairview, and Maltby Pumping Station system.

Evaluation of the Salinas Pump Station—Monterey Regional Water Pollution Control Agency, Monterey, CA: Evaluation of the Salinas Pump Station.

Trojan Lift Station and Bockman Interceptor—Oro Loma Sanitary District, San Lorenzo, CA: Evaluation of Trojan Lift Station and Bockman Interceptor.

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Joseph Boyle, PE
QA/QC

Education
BS/1984/Civil Engineering/
California Polytechnic State
University, SLO

Affiliations
American Water Works Association

Orange County Water Association

American Society of Civil Engineers

National Fire Protection Association

California Water Environment Association

Registration
Professional Engineer/CA
#44497

Experience
With DBE Psomas for 10 years *(merged with Psomas Nov. 2006)*; with other firms 12 years

Mr. Boyle's qualifications include extensive experience in planning and design of water transmission, distribution and storage facilities and preparation of plans and specifications for water and sewer main design, storm drain design, and roadway design, as well as construction phase services. Mr. Boyle also has extensive experience in planning and design of public works projects including site development, grading and storm drain design, streets and highways. As Vice President and Senior Project Manager of the Laguna Hills office, Mr. Boyle has overall responsibility for all client services provided from this office.

Relevant Project Experience

Dana Point Harbor Revitalization Sewer System Modifications Analysis, South Coast Water District, Dana Point, CA: Analysis of proposed modifications to the District's sewer system in Dana Point Harbor as part of the County of Orange revitalization project. This analysis included conceptual evaluation and cost estimates for various alternatives to relocate three existing lift stations and 12-inch through 8-inch gravity sewers and force mains. Prepared conceptual design for sewage lift stations and pipeline locations to accommodate the reconfiguration of buildings and parking structures.

Sewer Lift Station No. 8 Upgrades, South Coast Water District, Dana Point, CA: Prepared plans and specifications for retrofit upgrades to an existing sewer lift station. Improvements included replacement of two dry pit submersible pumps (30 HP, 500 GPM), replacement of all mechanical piping, fittings and valves, replacement of an existing retaining wall, new MCC panel, conversion of electric service from 240V to 480V and force main bypass tee and isolation valves.

Fernando Street Pump-Out Facility Sewer Force Main,City of Newport Beach, CA: Preparation of plans and specifications for the construction of a 6-inch sewer force main for a public dock boat pump-out facility.

Felipe Sewer Lift Station Upgrades, Santa Margarita Water District, Las Flores, CA: Preparation of a preliminary design report to address operational concerns by SMWD. This report included analysis of influent flow measurements to determine existing wet well storage requirements, installation of a manhole for temporary wet well bypass pumping during future maintenance activities, possible installation of variable frequency drives to reduce the number of pump cycles, installation of an emergency engine driven generator set and complete upgrade of the electrical and instrumentation system.

Beach Road and State Park Sewer Lift Stations Rehabilitation, South Coast Water District, Dana Point, CA: Scope of services included preparation of a preliminary design report (PDR), construction plans and specifications for the rehabilitation of two separate lift stations (1,150 gpm and 2,000 gpm) in Capistrano Beach. Design included

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— Continued — **Joseph Boyle, PE**
QA/QC

demolition of the existing control building at the Doheny State Park lift station and modification of a reinforced concrete structure to provide physical separation of the wet well and dry well and placement of all instrumentation and controls below grade. Instrumentation and controls were demolished and replaced at both stations, including manual transfer switches for mobile back-up generator connection. All pumps, valves and piping and mechanical equipment were replaced as well.

FY 2004/05 Sewer Line Reconstruction Project, City Of Laguna Beach, CA: Preparation of plans and specifications for the replacement of 6,500 LF of 15-inch through 4-inch gravity sewers and force mains at 26 separate locations. Scope of services included review of CCTV video tapes for condition assessment and recommendation of replacement by reconstruction or re-lining with CIPP. Permit processing with Caltrans for construction in South Coast Highway and design of sewers in congested streets and on steep hillsides between private residences was also included. Construction phase services provided included shop drawing review and response to RFI's.

FY 2002/2003 Sewer Capital Improvement Project City Of Laguna Beach, CA: Preparation of construction plans and specifications for replacement of 350 LF of 8-inch sewer at the Laguna Beach Playhouse and reconnection of several commercial sewer laterals to a new sewer main to eliminate the need for the Laguna Canyon Road Pump Station. Scope included coordination of potholing of existing utilities and a preliminary design report.

Rockfield Boulevard Trunk Sewer Rehabilitation, El Toro Water District, Lake Forest, CA: Preparation of preliminary design report, plans and technical specifications for the rehabilitation of 530 LF of 18-inch trunk sewer in Rockfield Boulevard at the intersection of El Toro Road. Various trenchless pipeline rehabilitation techniques such as CIPP and sliplining were analyzed for repair of a trunk sewer with cracking and offset joints, as well as groundwater intrusion.

El Toro Road 10-Inch Sewer Main Rehabilitation, El Toro Water District, Lake Forest, CA: Preparation of technical specifications for the rehabilitation of 285 LF of deteriorated 10-inch VCP sewer with Folded and Re-Formed PVC liner in El Toro Road at the intersection of Rockfield Boulevard. Due to extremely high traffic volume, installation was performed at night. Specifications were prepared to allow alternate bidding of either CIPP or Folded and Re-Formed PVC Liner. Preparation of traffic control plans and review of contractor submittals was included in the scope of services.

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Gregory Watanabe, PE

Project Engineer

Education

BS/2001/Civil Engineering - Emphasis in Environmental Engineering/California State Polytechnic University, Pomona

Affiliations

American Society of Civil Engineers

American Water Works Association

Environmental & Water Resources Institute of the American Society of Civil Engineers

National Society of Professional Engineers

Orange County Water Association

Water Environment Federation

Registration

2005/Professional Engineer/CA # C67618

2005/Professional Engineer/HI # PE-11801

Experience

With Psomas for over 7 years; with other firms for 3 years

Mr. Watanabe has over 10 years of planning, design, and utility system study and analysis experience. His emphasis has been in master planning, hydraulic system modeling, drafting, and design of plans including pipeline and pump station projects. From the projects Mr. Watanabe has completed, he has acquired experience in ArcGIS, ArcView GIS, AutoCAD, Flow Master, H2OMAP, H20NET, Hydra, Land Desktop, MicroStation, SewerCAD, Softdesk, WaterCAD, and others. Mr. Watanabe has also written computer software tools to aid in pipeline analysis and design.

Relevant Project Experience

Oakhurst Drive Sewer Study, City of Beverly Hills, CA: Project Manager for a sewer study for the City of Beverly Hills to determine the cause of a local reach of 15-inch sewer pipelines flowing over its capacity and devise a solution to resolve this issue. The tasks for this study included a CCTV video inspection, a temporary dry and wet-weather flow monitoring program, computer model hydraulic analysis (H2O MAP Sewer GIS), a comprehensive report, and recommendations for a detailed capital improvement program (CIP).

Model 21 and 26 Sewer Pipeline, City of Anaheim, CA: Project Engineer for the preliminary design and hydraulic analysis of nearly 12,400 LF of 12-inch, 15-inch, 18-inch, 21-inch, and 24-inch diameter sewer pipelines in Ball Road, Lemon Street, Vermont Avenue, East Street, and Lincoln Avenue and three new diversion connections to the existing 36-inch and 39-inch Orange County Sanitation District (OCSD) Newhope Placentia Trunk Sewer in State College Boulevard at Sycamore Street, South Street, and Almont Avenue.

Central Anaheim Sewer Study, City of Anaheim, CA: Managed a regional sewer study for six private development projects within the City of Anaheim. The study area included over 2.3 square miles and nearly 10 miles of sewer pipelines. A total of eight hydraulic computer model analyses were developed to determine the impacts of each proposed development on the City's existing and ultimate sewer conveyance systems. The analyses resulted in a list of recommended capital improvements throughout the study area that were further analyzed as part of a financial analysis and implementation plan to determine each developments fair share of the associated improvement costs.

Combined East Anaheim Area Master Plan of Sanitary Sewers, City of Anaheim, CA: Identified sewer collection system deficiencies within the eastern 14,000-acre portion of the City of Anaheim. The systems hydraulic analysis consisted of a 4,000-pipe computer model, field flow monitoring, and the population of a GIS database using sewer maps and as-built drawings.

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— Continued —

Gregory Watanabe, PE

Project Engineer

Sewer Master Plan, City of San Bernardino, CA: The project required the creation of an intelligent, inclusive GIS representation of the City's sewer manholes, sewer pipelines, and current and future land uses. The City's system was incorporated into a digital hydraulic model (H2O MAP Sewer GIS) and analyzed. Produced the master plan document, sewer system capital improvement program (CIP), and a capacity, management, operation, and maintenance plan (CMOM).

Sewer Master Plan, East Valley Water District, Highland, CA: The master plan was designed around an existing community located in San Bernardino County. The project required the resolution of infrastructure related issues including flow splits, diversion structures and inverted siphons; digitizing of the system from paper sewer atlas maps; incorporation of a digital hydraulic model (SewerCAD); the preparation of a master plan document, and the development of a capital improvement plan (CIP).

Anaheim Crossing Sewer Study, City of Anaheim, CA: Managed a sewer study for a 5.2-acre redevelopment project in the City of Anaheim. The site consisted of developing an existing commercial/industrial property to a 312-unit condominium complex. The purpose of this study was to determine the effects of the existing and ultimate City sewer systems based upon the proposed land use. The final deliverable consisted of a comprehensive report and computer hydraulic model.

Sewer Study, City of Beverly Hills, CA: The study involved a citywide analysis of the sewer system using computer modeling (Hydra) and validation of a sewer agreement between the Cities of Los Angeles and Beverly Hills. The study also required a temporary dry and wet-weather flow monitoring program to determine the amount of defect due to suspected inflow and infiltration (I/I) and the magnitude of "pass thru" sewer flow from the adjacent City's of West Hollywood and Los Angeles.

Orangewood and Mountain View Sewer Pipeline, Model 13 and 51, City of Anaheim, CA: Managed the design of approximately 6,500 LF of 15-inch to 21-inch diameter sewer pipelines in Orangewood Avenue and Mountain View Avenue including a 12-inch inverted siphon, the jack and bore construction of a steel casing under an existing large reinforced concrete box storm drain structure and upsizing an existing 39-inch Orange County Sanitation District (OCSD) Newhope Placentia Trunk Sewer connection.

Citywide Sewer Rehabilitation Program, City of Anaheim, CA: Project Engineer for the City's first phase that evaluated approximately 2.5 miles of 8-inch to 24-inch sewer pipes; identifying the pipes in need of rehabilitation; prioritizing the pipes according to the level of damage; proposing appropriate rehabilitation methods for various pipe conditions; coordinating with other utilities; and preparing plans, specifications, and cost estimates for the implementation of the rehabilitation program.

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Jerry Valladao, PE
Engineer

Education
BS/1996/Environmental Engineering/ California Polytechnic State University, San Luis Obispo

Registration
2001/Professional Civil Engineer/ California/C #61522

Affiliations
American Water Works Association

California Water Environment Association

San Francisco Bay Section, California Water Environment Association

Tau Beta Pi-National Engineering Honor Society

Experience
With Dodson Psomas for over 9 years *(merged with Psomas January 2007)*

Mr. Valladao has over nine years experience in the planning, design, and construction of water and wastewater facility projects.

Relevant Project Experience

Pumping Station Master Plan, City of Pacific Grove, CA: Project Engineer for the evaluation of seven wastewater pumping stations to ensure that the pumping stations and their associated facilities can reliably handle current and projected future wastewater flows and to identify any improvements needed to the pumping stations.

LNWI Project—Sacramento Regional County Sanitation District, Sacramento, CA: Project Engineer tasks included evaluating pump hydraulics and pump selection for the 221-MGD South River and 168-MGD New Natomas Pumping Stations.

Pumping Station Planning and Design, City of West Sacramento, CA: Project Engineer for the analysis of eleven (11) wastewater pumping stations for hydraulics, reliability, O&M concerns, SCADA, and cathodic protection. Performed elaborate computer modeling to analyze the hydraulics to convert the system from pumping to the City's WWTP to Sacramento Regional County Sanitation District's LNWI system.

Pond Influent 36-MGD Pumping Station Upgrade Project, City of Petaluma, CA: Project Engineer for the complete demolition and upgrade of all systems to the pumping station while keeping the pumping station in operation. Tasks included the design of the following systems: pumps (sewage and water), soil bed odor control, cathodic protection, standby generator, diesel fuel, service air, trolley and hoist, seal water, irrigation, and piping. Other tasks included design of surge tank, C-value testing, landscaping, and cost estimate.

Lower Orinda 21-MGD Pumping Station Renovation Project—Central Contra Costa Sanitary District, Concord, CA: Project Engineer for the complete demolition and upgrade of all systems at the pumping station including expansion on all four sides of the structure while keeping the pumping station in operation. Tasks included the design of the following systems: pumps (sewage and water), odor control unit, standby generator, ventilation, service and instrument air, surge tank, seal water, flow metering, and piping.

Sanitary Sewer Pumping Station S-5 Improvements Project, City of Pleasanton, CA: Project Engineer for upgrading an existing pumping station and included all electrical/instrumentation, structural, landscaping and architectural design.

Moraga (26 MGD) and Orinda Crossroads (29 MGD) Pumping Station Renovation Project—Central Contra Costa Sanitary District, Concord, CA: Project Engineer for the renovation project which consisted of upgrading the pumping stations by replacing the existing pumps, electrical gear, piping and valves.

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— Continued —

Jerry Valladao, PE

Engineer

West Main Street Sanitary Sewer Pump Station "A" Project, City of Winters, CA: Project Engineer for the design of a submersible pump station. Tasks included the design of the following systems: sewage pumps, odor control unit, standby generator, ventilation, surge tank, flow metering and piping. Project also included architectural and landscaping design.

Sump 2 Improvements Project, City of Sacramento, CA: Project Engineer for the mechanical design for pumping and screening facilities at the new 210-MGD Sump 2A Pumping Station.

LAVWMA Pumping Station Project—Livermore-Amador Valley Water Management Agency (LAVWMA), Livermore, CA: Project Engineer for the design of a new influent junction structure, a new 27-inch conveyance pipeline and upgrading the existing 21-MGD pumping station to a 41.2-MGD pumping station.

Airport Lift Station and Storm Water Lift Stations Project, City of Livermore, CA: Project Engineer for the design of a new submersible pumping station that replaces an existing station within the City's Airport taxiways. Also included forcemain and gravity sewer.

Northeast Fairfield Pump Station—Fairfield-Suisun Sewer District, Fairfield, CA: Project Manager for design of new 3 MGD submersible pump station. Station includes generator, surge control, electrical, civil, mechanical and structural work.

Analysis of the Marina Coast Water District's Ord Village Pumping Station—Monterey Regional Water Pollution Control Agency, Monterey, CA: As Project Engineer performed hydraulic analysis, cost impact work and facility assessment for compliance with MRWPCA's requirements.

Railroad Avenue Lift Station Rehabilitation, Construction Sevices—Oro Loma Sanitary District, San Lorenzo, CA: Project Engineer tasks included submittal review of the following: standby generator, sluice gate and electric operator, sewage pumps, water tank, louvers, valves, and piping.

Mulberry Pumping Station Replacement Project—Fairfield-Suisun Sewer District, Fairfield, CA: Project Engineer for the replacement and upgrade of the existing storm water pumping station with a new 10.6-MGD pumping station.

South Interceptor Relocation Project—East Bay Municipal Utility District, Oakland, CA: Project Engineer for the design and the relocation of a 66-inch gravity sanitary sewer and a 48-inch sanitary sewer forcemain. A portion of the forcemain included a jack and bore operation.

David Moritz, PLS, EIT

Survey

Education

BS/1993/Civil Engineering/
California State Polytechnic
University, Pomona

Registration

1997/Land Surveyor/CA #7388

1991/EIT Certification
(XEO84371)

Affiliations

California State Land Surveyors
Association

City of Azusa Planning
Commission, 1993-2001

Experience

With Psomas for 14 years; with
other firms for 3 years

Mr. Moritz has over 17 years of experience in the analysis, design, preparation, and drafting of ALTA surveys, design surveys, right-of-way base mapping, Records of Survey, and legal descriptions. His responsibilities include performing survey research and boundary analysis; preparing project reports, budgets, and scopes; reviewing easements and title reports; and overseeing mapping production. Mr. Moritz is also involved in the coordination and oversight of work among the client, title companies, assistant surveyors and drafting staff, and in-house civil engineers.

Relevant Project Experience

Katella Avenue Sewer Design, City of Anaheim, CA: Project Surveyor for the design of approximately 1-¼ miles of 15-inch VCP sewer pipeline that replaced existing City sewers that were undersized. The alignment made connections to the Garden Grove Sanitary District system and traversed through unincorporated areas of the County of Orange. In addition, this project was scheduled to be constructed with the Katella Avenue Smart Street Project for both the City of Anaheim and the County of Orange. These unique design tasks required the close collaboration and coordination with multiple agencies and design consultants.

Orangewood and Mountain View Sewer Pipeline, Model 13 and 51, City of Anaheim, CA: Project Surveyor for design of approximately 6,500 LF of 15-inch to 21-inch diameter sewer pipelines in Orangewood Avenue and Mountain View Avenue including a 12-inch inverted siphon, the jack and bore construction of a steel casing under an existing large reinforced concrete box storm drain structure and upsizing an existing 39-inch Orange County Sanitation District (OCSD) Newhope Placentia Trunk Sewer connection.

Metropolitan Water District Inland Feeder, San Bernardino County, CA: Responsibilities included boundary analysis and record-of-survey mapping of a portion of the right-of-way. Also responsible for mapping of the underground utilities of a 10-mile-long corridor for the Metropolitan Water District's Inland Feeder Pipeline Project, a future water line consisting of nearly 45 miles of large-diameter pipeline and tunnels.

Southern California Gas Line #6902 Pipeline, CA: Project Surveyor for this 30-mile gas line within Riverside and Imperial Counties. This project tied into Line 5000, just north of Highway 10, and extended southerly through the Chocolate Mountains Bombing Range and BLM to the Niland Valve Station. Services included right-of-way base mapping, construction drawings, control survey, legal descriptions, and pipeline as-built surveying and mapping.

City of Carson Redevelopment Agency, Carson, CA: Project Manager/Senior Project Surveyor for a parcel map and development plans for the Carson Redevelopment Agency. Responsibilites include coordination with design engineers, Redevelopment Agency, and perspective property owners. Coordinate, prepare and process Tentative

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— Continued —

David Moritz, PLS, EIT

Survey

and Final Parcel Map with City. Attend Planning Commission and City Council meetings as needed to process map and gain project approvals.

Monitoring Well/Soil Boring Survey Project—Brown and Caldwell, Carson, CA: As Project Manager and Senior Project Surveyor, responsible for this $265,000 monitoring well/soil boring survey project. As Project Manager, Mr. Moritz is responsible for client communication and coordination, scheduling, and contract management. He works closely with Brown and Caldwell to ensure that all survey requests are executed in a timely manner. Typical response time is within 24 hours of a field survey request. As Senior Project Surveyor, in responsible charge for all of the survey control points set for the survey, together with processing the daily well survey data. At the beginning of the project, Psomas performed an extensive GPS and conventional control survey to bring known coordinate values to the site. Mr. Moritz was the lead surveyor for this effort.

Shell Carson Terminal, Carson, CA: Project Manager (as a subconsultant to URS, Brown and Caldwell, and Geosyntec) for surveying and mapping of monitoring wells and soil borings on this re-use project. Under Dave's supervision, established survey control and located monitoring wells/soil borings across the refinery and at off-site locations. Provided on-call surveying services over the past three years, surveying over 1,500 monitoring wells and soil boring points.

Northrop Monitoring Wells, Hawthorne, CA: As subconsultant to URS, served as Project Manager responsible for surveying and mapping of monitoring wells and soil borings on this project. Under Dave's supervision, established survey control and located monitoring wells/soil borings at various locations across the facility. Providing on-call surveying services over the past three years, surveying over 100 monitoring wells and soil boring points both on- and off-site.

MCAS Tustin Reuse Plan, CA: Project Surveyor responsible for cadastral research, boundary establishment, utility surveys, and legal descriptions.

Oakhurst Drive Sewer Study

Beverly Hills, CA

Project Date

October 2007

Key Staff

Greg Watanabe – Project Manager

Client/Contact

City of Beverly Hills
455 N. Rexford Dr.
Beverly Hills, CA 90210

Vincent Chee
(310) 285-2504

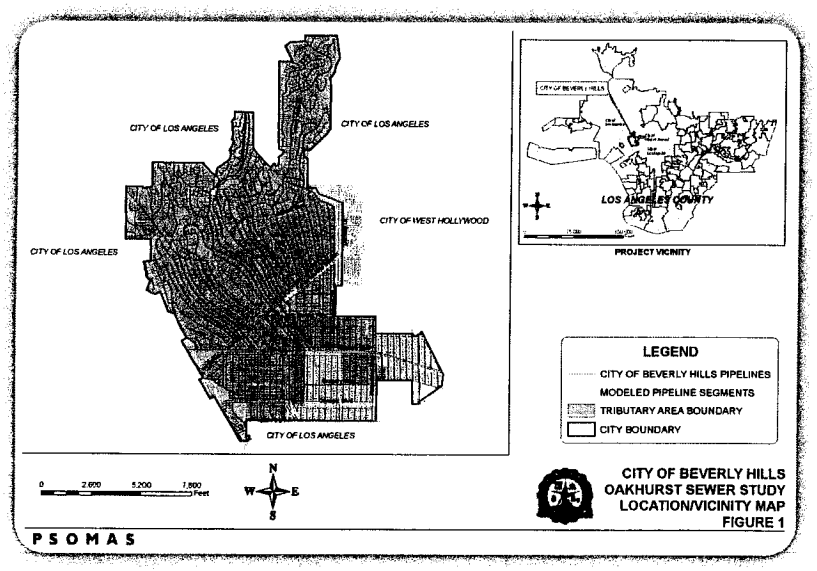
Project Cost

$91,615 (Psomas Fee)

The City of Beverly Hills engaged Psomas to conduct a sewer system capacity analysis for the Oakhurst Drive Sewer as a result of routine flow monitoring which revealed defects in this sewer. The purpose of this study was to determine deficiencies in the Oakhurst Drive Sewer system and determine the specific capital improvements required for the local sewer system. In addition, this study presented findings from a wet-weather sewage flow analysis.

The study area consists of residential, civic center/public facilities and commercial land uses. It encompasses 3,137 acres (4.9 square miles), which includes the entire area tributary to the collection system feeding the subject sewer system. The City of Beverly Hills is bounded by the City of Los Angeles to the north, south and west, and the City of West Hollywood to the east. Wastewater from the study area flows by gravity through the City of Beverly Hills collection system in a general southeast direction. The sewer pipe segments focused on in this analysis are located on Oakhurst Drive between Santa Monica Boulevard and Wilshire Boulevard, on Wilshire Boulevard between Rexford Drive and Robertson Boulevard, and on Robertson Boulevard between Wilshire Boulevard and Gregory Way.

Existing and general plan land uses were obtained from the City of Beverly Hills and assessed and evaluated as part of the sewer system study. The corresponding population and land use densities were also obtained from the City. For the three existing land use scenarios modeled, which included maximum flow from the reverse osmosis water treatment plant (WTP) at Foothill Boulevard and 3rd Street at the existing discharge point and flow from the WTP diverted to Burton Way, no sewer deficiencies were revealed. Similarly, under the general plan (build-out) conditions modeled which also included WTP discharge scenarios, no sewer pipelines exceeded the City's capacity criteria.



Eight existing land use scenarios were modeled to determine the impact the six proposed developments would have on the study area's sewer collection system. For all eight existing land use scenarios, 5,693 linear feet (LF) of sewer pipe were flowing over their design capacity. Under the general plan (build-out) scenario modeled, 11,236 LF of sewer pipe were deficient (an addition of 5,543 over the existing condition scenarios).

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Phase I Sewer System Rehabilitation

West Hollywood, CA

Project Dates

2007 to 2008

Key Staff

Harvey Gobas - Principal-in-Charge

Client/Contact

City of West Hollywood
8300 Santa Monica Boulevard
West Hollywood, CA 90069

Sharon Perlstein
(323) 848-6383

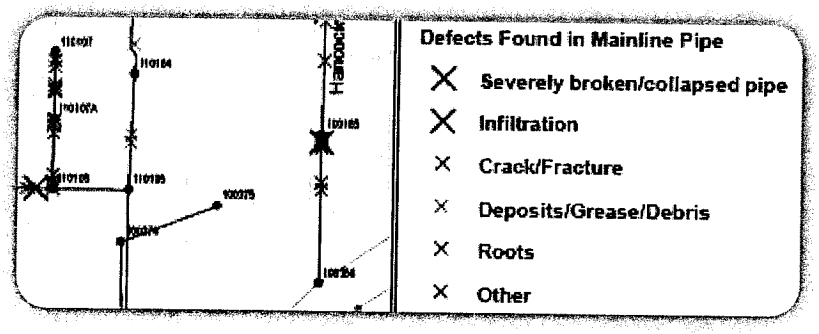
Project Cost

$575,000 (Estimated Construction Cost)

$164,135 (Psomas Fee)

Psomas is assisting the City of West Hollywood to develop a systematic sewer rehabilitation program. For Phase 1, our project team televised approximately 19,000 feet of sewers constructed between the 1920s and 1960s (10% of the collection system), inspected manholes, and provided a report and cost estimate for sewer and manhole rehabilitation. Final design of the Phase 1 rehabilitation projects is currently underway. This project is anticipated to be the first phase of a 10-phase rehabilitation program.

The defects in the system and the proposed rehabilitation projects are presented graphically in a GIS system which will eventually be integrated into the City's GIS, allowing City operations and engineering staff to locate defects and identify patterns. Laterals are also shown on the GIS map, to assist the City in contacting property owners with defective laterals.



Sewer Flow Study

Beverly Hills, CA

Project Dates

2000 to 2002

Key Staff

Greg Watanabe – Project Engineer

Client/Contact

City of Beverly Hills
Public Works Department
455 North Rexford Drive
Beverly Hills, CA 90201-4817

Rob Beste
City Engineer
(310) 285-2512

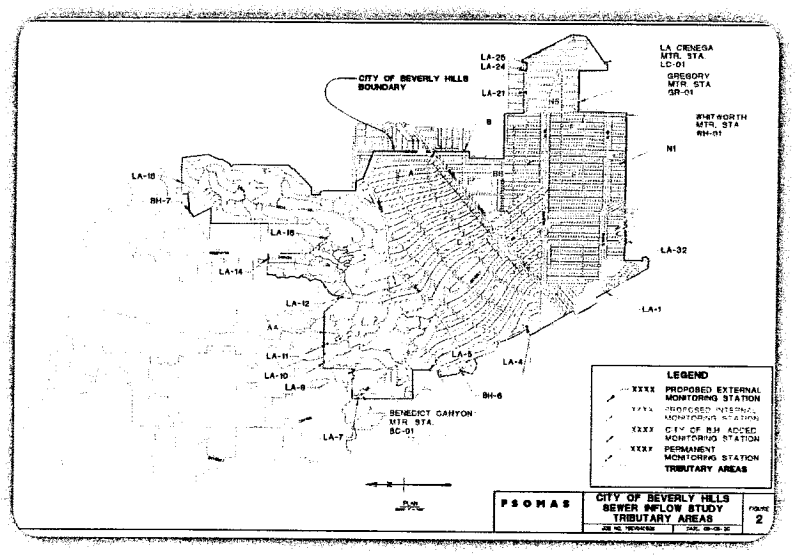
Project Cost

$640,000 (Total Fee)
$300,000 (Psomas fee)

The City of Beverly Hills engaged Psomas to conduct a citywide sewer flow study. This study included following major tasks.

- Validating all sewer wye connections to the City's sewer network by collecting and reviewing the City of Los Angeles wye maps
- Selecting sewer flow monitoring sites, install flow monitoring meters, and collect sewer flow data during both the one-month dry and three-month wet seasons
- Analyzing the metered sewer flow data to establish sewage generation rates
- Estimating sewage generation rates based on the land use information
- Upgrading and recalibration of the City's existing sewer modeling software and the model itself (Hydra 6.0)
- Modifications and refinements of the City's existing GIS sewer network to match the City's digital land-base information
- Compilation, scanning, and indexing of all sewer as-built and wye maps into the City's sewer GIS network and making them accessible to the City staff.

Flow monitoring took place on over 25 locations along the perimeter and internal to the City of Beverly Hills. Dry-weather flow monitoring was done over a 30-day period in late fall of year 2000. And wet-weather flow monitoring took place for three months starting in January 2001. The dry and wet weather flow monitoring data was then compared and evaluated for infiltration and inflow and used to recalibrate the existing hydraulic sewer flow model.



32

Pump Station Master Plan

Pacific Grove, CA

Project Dates

2005 to 2006

Key Staff

Dana Hunt – Project Manager

Jerry Valladao – Project Engineer

Client/Contact

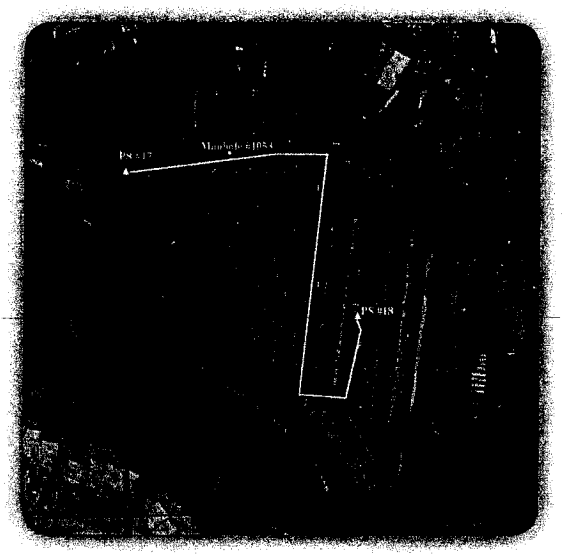
City of Pacific Grove
Corporation Yard
2100 Sunset Drive
Pacific Grove, CA 93950

Celia Perez Martinez
(831) 648-5722

Project Cost

$64,000 (Project Fee)

Dodson Psomas performed engineering services to evaluate the City's seven wastewater pump stations. The near-term goal of the master plan was to ensure that the wastewater pump stations and their associated facilities can reliably handle current and projected future wastewater flows. The reliability of these stations is of the utmost importance due to the sensitive marine environment of the Monterey Bay. The master plan also identified improvements needed to bring the condition of the wastewater pump stations and their associated facilities to a level where they will be acceptable for ownership by the Monterey Regional Water Pollution Control Agency (MRWPCA), should MRWPCA be willing to accept ownership of the pump station.



Project completed by Dodson Engineers prior to merger with Psomas.

Beverly Drive Sewer Rehabilitation

Beverly Hills, CA

Project Dates

2007 to 2008

Key Staff

Greg Watanabe – Project Engineer

Client/Contact

City of Beverly Hills
455 N. Rexford Drive
Beverly Hills, CA 90210

Anne Zaworski
(310) 285-2520

Project Cost

$70,000 (Estimated Construction Cost)

$60,000 (Estimated Psomas/ Empire Fee)

The Psomas project team inspected 2,000 feet of sewers on Beverly Drive, a winding narrow road with high traffic volumes in a sensitive neighborhood. Based on the results of these inspections, Psomas identified 750 feet of pipe for CIPP rehabilitation and provided design services for the replacement piping. Psomas will be providing management services for construction of the piping in early 2008.

Sewer Pump Station Evaluation and Rehabilitation Project

West Sacramento, CA

Project Dates

2004 to 2007

Key Staff

Dana Hunt – Project Manager

Jerry Valladao – Project Engineer

Client/Contact

City of West Sacramento
1010 West Capitol Ave
Sacramento, CA 95691

Michael Bessette
(916) 617-4655

Project Cost

$735,110 (Project Fee)

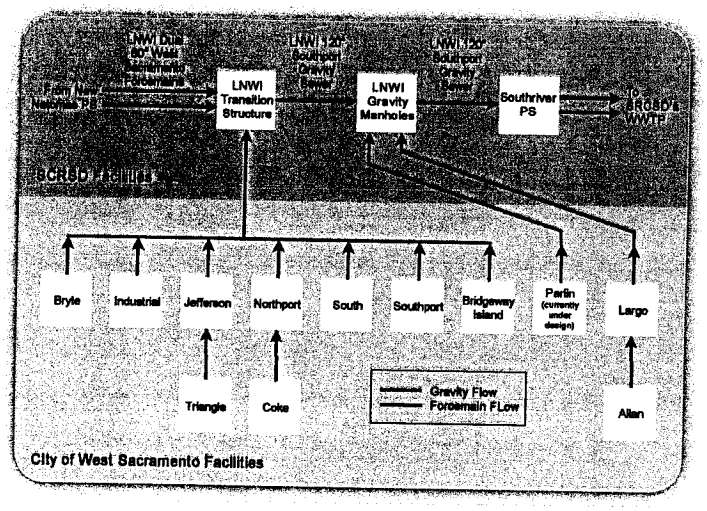
$ 6,000,000 (Construction Cost)

Dodson Psomas conducted an extensive analysis of the City of West Sacramento's 11 wastewater pumping stations. The analysis included hydraulic computer modeling of the pumping stations and their associated forcemain system to determine the pumping station modifications required to transition all wastewater pumping to SRCSD's LWNI system upon decommissioning of the City's WWTP.

An extensive basis of design planning document was developed by Dodson Psomas prior to beginning detailed design work. The document included hydraulic analysis, construction sequencing, constraint development for conversion to the LNWI system, pumping station analysis for reliability and O&M concerns, SCADA study, and corrosion study, as well as an innovative and cost effective plan for short-term improvements to meet peak weather flows.

Working with the City's engineering, operations and maintenance personnel, Dodson Psomas developed phased improvements to meet the City's budget limitations while ensuring reliable pumping of incoming wastewater flows at all times. A phasing plan was developed to optimize the pumping station capacity to meet the incoming existing flows and future PWWF at build-out. Detailed design was performed for 11 of the City's pumping stations. The project bid in 2006 for $5.1 million. The construction punchlist items were completed in late 2007. In October 2007 Dodson Psomas received an e-mail from the City commending them on their outstanding performance and announcing the successful completion of the transition of flow from the City's WWTP to SRCSD's LNWI system.

Project completed by Dodson Engineers prior to merger with Psomas.



34

Combined East Area Sewer Master Plan and Financial Implementation Plan

Anaheim, CA

Project Date

2005

Key Staff

Greg Watanabe – Project Engineer

Client/Contact

City of Anaheim
Public Works Department
200 S. Anaheim Boulevard
Anaheim, CA 92805

Natalie Meeks
Director of Public Works
(714) 765-5100

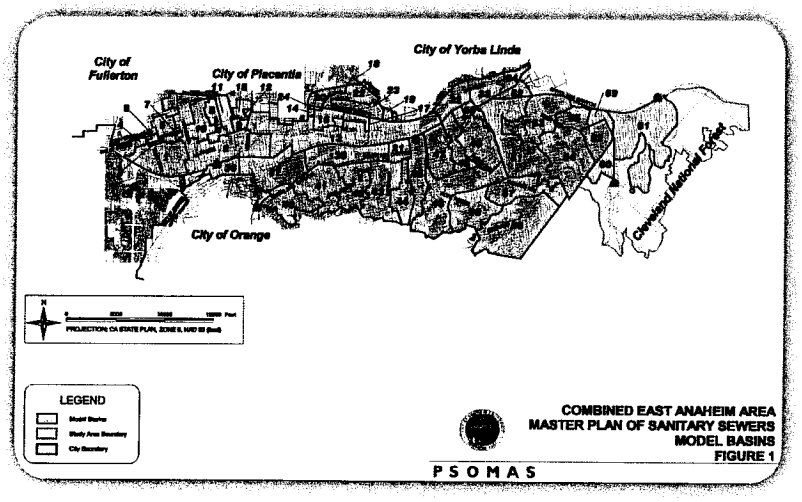
Project Cost

$208,000 (Psomas Fee)

Psomas prepared a computer-based hydraulic model and master plan report to evaluate the sewer system within the eastern portion of the City of Anaheim, generally located east of the Orange Freeway (SR-57) and Riverside Freeway (SR-91), to identify sewer system needs for existing and build-out peak dry weather flows (PDWF). This area encompassed approximately 12,658 gross acres (20 square miles) and has an existing population totaling approximately 80,000.

This analysis resulted in $711,167 (September 2005 dollars) in recommended capital improvements necessary to correct system deficiencies in the build-out PDWF condition, including existing system improvement costs. It was determined that to provide adequate capacity to serve the future anticipated growth, the total build-out PDWF condition will be applied for design and construction purposes. A prioritized, phased capital improvement program was developed for total build-out PDWF needs using the results of this analysis.

In addition, Psomas prepared a Financial Implementation Plan to investigate alternative funding mechanisms and developed sewer impact areas and fees to generate funding for correction of system deficiencies.



Central Area Sewer Study

Anaheim, CA

Project Date

2006

Key Staff

Greg Watanabe – Project Engineer

Client/Contact

City of Anaheim
Public Works Department
200 S. Anaheim Boulevard
Anaheim, CA 92805

Natalie Meeks
Director of Public Works
(714) 765-5100

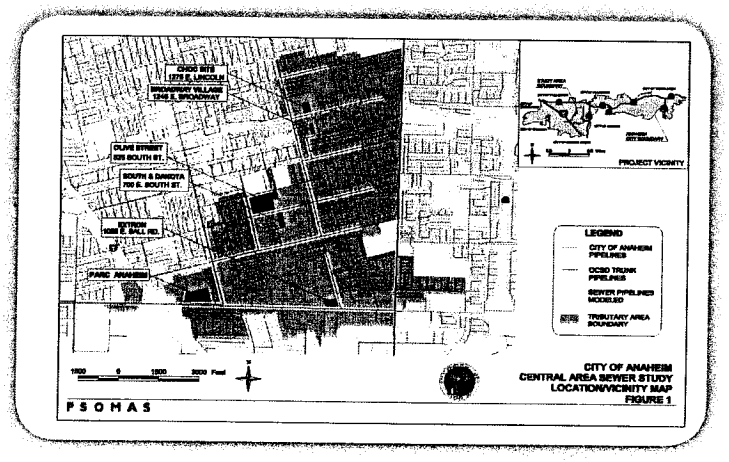
Project Cost

$43,200 (Psomas Fee)

This study was an addendum to the January 1993 South Central Area and the October 1993 Old Town/Basin 8 Sewer Deficiency Studies conducted by the City of Anaheim. The purpose of this study is to determine the direct effects of developing six existing commercial and industrial sites with six proposed developments on both the existing and ultimate municipal sewer systems.

The study area consisted of residential, commercial, industrial, and institutional land uses. It encompasses 1,500 acres (2.3 square miles) and includes the entire area tributary to the sewer collection system serving the six proposed redevelopment sites. Wastewater from the study area flows by gravity through the City collection system to the Orange County Sanitation District's trunk lines for ultimate treatment and disposal. This area is irregularly shaped, generally located between State Route 91 to the north, Interstate 5 to the south and west, and State Route 57 to the east.

Eight existing land use scenarios were modeled to determine the impact the six proposed developments would have on the study area's sewer collection system. For all eight existing land use scenarios, 5,693 linear feet (LF) of sewer pipe were flowing over their design capacity. Under the general plan (build-out) scenario modeled, 11,236 LF of sewer pipe were deficient (an addition of 5,543 over the existing condition scenarios).



36

Glorietta Bay Sewage Pump Station Relocation

Coronado, CA

Project Date

2002

Client/Contact

City of Coronado
Department of Public Works
1395 First Street
Coronado, CA 92118

Ed Walton
(619) 522-7385

Project Cost

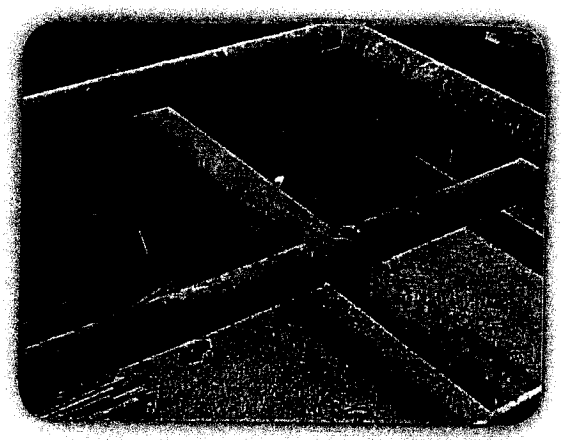
$3,400,000

The Glorietta Bay Sewage Pump Station was originally located between the existing City Hall and the municipal pool complex on the east side of Strand Way, southerly of the Hotel Del Coronado and across from Coronado Shores condominium project on the Silver Strand. In that location, it conflicted with a proposed new civic center project.

The $3.4 million pump station relocation project moved the station from its previous location to a new site at the southwest corner of Glorietta Bay Park, just north of the Naval Amphibious Base.

The new station is completely underground and includes four-75 HP submersible pumps, a 350,000-gallon emergency overflow basin, an underground electrical room, an odor control system, and relocation of 3,000 feet of various gravity and pressure sewers. The site is completely landscaped to blend harmoniously into the park setting. The project included 1,000 feet of directional drilling for a 12-inch PVC pipeline under Caltrans right of way.

The station serves the existing Civic Center, the Naval Amphibious Base, the Hotel Del Coronado and Coronado Shores development, and also receives wastewater pumped to it from the Coronado Cays and Silver Strand Naval Housing. The new pump station is a key element of the system that discharges wastewater from the City of Coronado to the City of San Diego Metropolitan Wastewater Treatment Plant at Point Loma.



Construction period services for this project included shop drawing review, responding to contractor inquiries, responding to requests for information, preparing design change orders, attending periodic construction meetings, evaluating contractor change order requests, and preparing record drawings.

Project Completed by Pountney Consulting Group prior to merger with Psomas in January 2004.

37

Ord Village Lift Station Analysis

Monterey County, CA

Project Dates

2004 to 2005

Key Staff

Dana Hunt – Project Manager

Jerry Valladao – Project Engineer

Client/Contact

Monterey Regional Water Pollution Control Agency (MRWPCA)
5 Harris Court, Bldg D
Monterey, CA 93940

Robert Jacques
(831) 372-3367

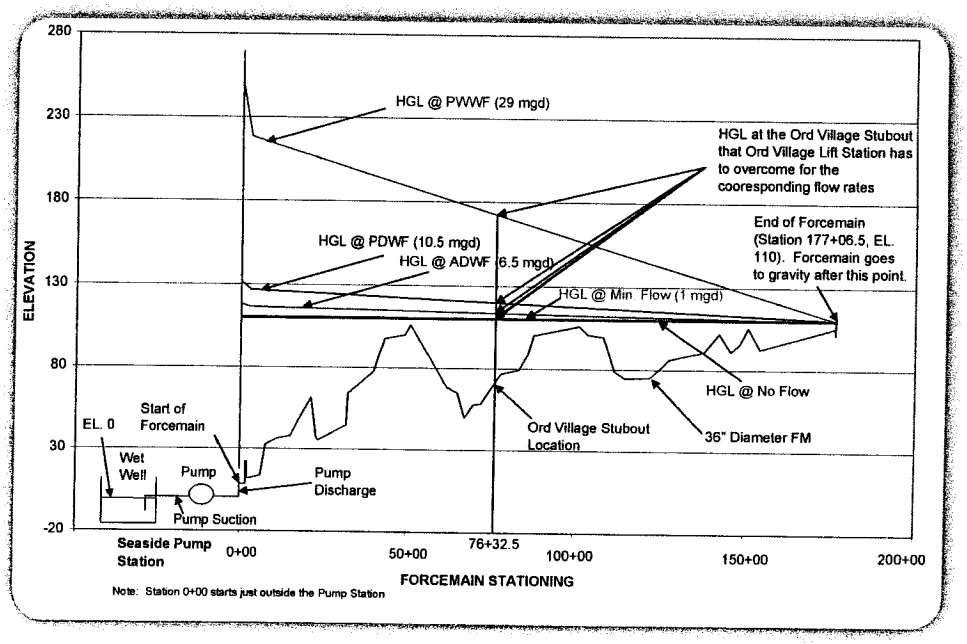
Project Cost

$22,524 (Dodson Psomas Fee)

Dodson Psomas was contacted by MRWPCA to provide technical analysis of Marina Coast Water District's (MCWD) Ord Village Lift Station. The analysis was two-fold. First, MCWD wished to abandon the existing Ord Village Lift Station forcemain and pump directly into MRWPCA's Seaside Pump Station's 36-inch interceptor. Dodson Engineers analyzed the hydraulic and financial impact that this would have on the Seaside Pump Station as well as the Ord Village Pump Station. Secondly, Dodson Engineers reviewed the Ord Village Lift Station with respect to MRWPCA's own pump station criteria to determine modifications that MRWPCA would require if the agency was to take over ownership, operations and maintenance of the facility. This work will prove invaluable to the City of Pacific Grove for the proposed Pump Station Master Plan project.

Dodson Psomas has served as a consultant to MRWPCA over the past nine years for their pump station work. Dodson Engineers has performed work at the Seaside, Fort Ord, and Salinas Pump Stations, as well as prepared a transport and vulnerability study for the Agency.

Project completed by Dodson Engineers prior to merger with Psomas.



Sanitary Sewer Design Improvements

Palos Verdes Estates, CA

Project Dates

June 2003 to November 2003
Phase I and Phase II

Client/Contact

City of Palos Verdes Estates
340 Palos Verdes Drive West
Palos Verdes Estates, CA 90274

Allan Riggs
Director of Public Works
(310) 378-0383

In two phases, the City of Palos Verdes Estates identified 33,000 lf of sanitary sewer pipelines to be rehabilitated or replaced as part of the planned sanitary sewer improvements for Fiscal Years 2003/04 and 2004/05. Preliminary investigation by the City indicated that these pipes needed to be repaired by trenchless lining methods with point repair, where necessary, or replaced with a larger size to meet the maintenance requirements of the Los Angeles County Department of Public Works (LACDPW).

Psomas assessed the condition of the pipe segments by reviewing video logs and prepared the design drawings and specifications for the rehabilitation. Psomas provided construction inspection during the implementation of the project.

East Valley Water District Sewer Master Plan

Highland, CA

Project Date

June 2002

Key Staff

Greg Watanabe – Project Engineer

Client/Contact

East Valley Water District
1155 del Rosa Avenue
San Bernardino, CA 92413

Ronald Bushwald, PE
(909) 888-8986

Project Cost

$170,000 (Psomas Fee)

East Valley Water District is a Special District located in San Bernardino County that supplies sewer and water services to a portion of the City of San Bernardino, City of Highland, and other unincorporated areas. Psomas developed a Sewer Master Plan consisting of the following:

- A complete review of land use, water demands, and determination of sewer loading factors for the entire District.
- The development of a computer sewer flow model, calibration of the model with the results of flow monitoring at strategic locations within the District, calibration of the model to current conditions, and using the model to predict future flows under the ultimate land use conditions.
- Developing a Capital Improvement Program, which focused on current system deficiencies and projected future capital facility requirements in order to meet the ultimate land use conditions.
- Review of the District's Overflow Response Plan, design standards, and review for compliance with the proposed capacity, management, operations, and maintenance (CMOM) Regulations.

39

Sewer Pipeline Replacement

Anaheim, CA

Project Dates

2007 to Present

Key Staff

Joe Boyle – Project Manager

Greg Watanabe – Project Engineer

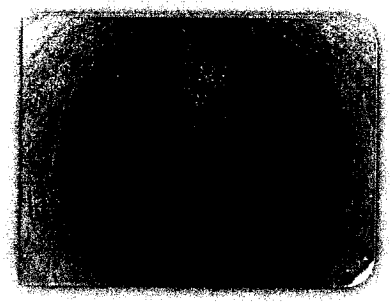
Client/Contact

City of Anaheim
Public Works Department
200 S. Anaheim Boulevard
Anaheim, CA 92805

Natalie Meeks
Director of Public Works
(714) 765-5100

Project Cost

$564,300 (Psomas Fee)



This project addressed existing and build-out deficiencies identified in the City's sewer master plan. It consists of the design of nearly 12,400 linear feet of 12-inch, 15-inch, 18-inch, 21-inch, and 24-inch diameter sewer pipelines in Ball Road, Lemon Street, Vermont Avenue, East Street, and Lincoln Avenue and three new diversion connections to the existing 36-inch and 39-inch Orange County Sanitation District (OCSD) Newhope Placentia Trunk Sewer in State College Boulevard at Sycamore Street, South Street, and Almont Avenue.

However, Psomas generated an innovative analysis in the preliminary design that diverted upstream flows resulting in the elimination of nearly all remaining local deficiencies. This provided a significant cost savings of approximately $6.9 million (August 2006 dollars) in construction and engineering costs. In summary, it proved that a strong partnership between the City and Consulting Engineer resulted in an innovative and cost effective sewer improvement program.

City of San Bernardino Sewer Master Plan

San Bernardino, CA

Project Date

2002

Key Staff

Greg Watanabe – Project Engineer

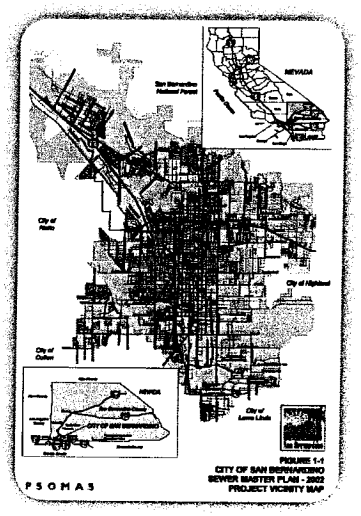
Client/Contact

City of San Bernardino
300 North D Street, 3rd Floor
San Bernardino, CA 92418

Robert Sepulveda
(909) 384-5111

Project Cost

$250,400 (Psomas Fee)



The City of San Bernardino contracted Psomas to provide engineering services to develop a comprehensive sewer master plan. Psomas' services consisted of the following:

- A complete review of land use, water demands and determination of sewer loading factors for the entire City.
- The development of a computer sewer flow model, and calibration of that model with the results of flow monitoring at strategic locations within the City, calibrating the model to current conditions and then using the model to predict future flows under the ultimate land use conditions.
- Developing a Capital Improvement Program, first focusing on current system deficiencies, and then projecting into the future, capital facility requirements in order to meet the ultimate land use conditions.
- Review of the City's Overflow Response Plan, design standards and review for compliance with the proposed CMOM Regulations.

CITY OF CULVER CITY

Fee Proposal - Sewer Pump Station Consolidation Feasibility Study

January 31, 2008 (Revised February 19, 2008)

Task Description	Personnel Hours											
	Project Manager	QA/QC Officer	Technical Advisor	Project Engineer	Staff Engineer	Project Surveyor	Two-Person Survey Crew	Project Assistant/ Engineering Aide	Total Hours	Labor	Non-Labor (ODC + Subs)	Total
Hourly Rates	$210	$210	$202	$160	$110	$130	$235	$70				
Task 1 - Project Management and QA/QC												
Kick-Off Meeting Including Minutes (1 meeting)	4	-	-	6	-	-	-	2	12	$ 1,940	$ 100	$ 2,040
Attend Bi-Weekly Meetings Including Minutes (6 meetings)	24	-	-	36	-	-	-	12	72	$ 11,640	$ 600	$ 12,240
Quality Control	-	6	-	-	-	-	-	-	6	$ 1,260	$ -	$ 1,260
Subtotal Task 1 - Project Management and QA/QC	28	6	-	42	-	-	-	14	90	$ 14,840	$ 700	$ 15,540
Task 2 - Preliminary Investigations												
Data Acquisition and Investigations	4	-	5	18	22	-	-	4	53	$ 7,430	$ 300	$ 7,730
Survey	-	-	-	10	-	25	64	-	99	$ 19,890	$ 400	$ 20,290
Master Plan Review	2	-	-	8	-	-	-	-	10	$ 1,700	$ -	$ 1,700
Subtotal Task 2 - Preliminary Investigations	6	-	5	36	22	25	64	4	162	$ 29,020	$ 700	$ 29,720
Task 3 - Sewer Pump Station Consolidation Feasibility Study Report												
3.1 Prepare Draft SPSCFS Report (3 hardcopies + 1 CD-ROM)												
3.1a System Hydraulics	3	-	3	30	19	-	-	2	57	$ 8,266	$ 50	$ 8,316
3.1b Recommendations and Capital Improvements	2	-	4	19	24	-	-	6	55	$ 7,328	$ -	$ 7,328
3.1c Economic Analysis and Impacts	3	-	3	15	37	-	-	6	64	$ 8,126	$ 50	$ 8,176
3.2 Prepare Final SPSCFS Report (5 hardcopies + 1 CD-ROM)	2	-	-	9	11	-	-	4	26	$ 3,350	$ 200	$ 3,550
Subtotal Task 3 - SPSCFS Report	10	-	10	73	91	-	-	18	202	$ 27,070	$ 300	$ 27,370
Total (not including Optional Scope Items)	44	6	15	151	113	25	64	36	454	$ 70,930	$ 1,700	$ 72,630
Task 4 - Optional Scope Items												
Hydraulic Modeling (skeletonized trunk model)	2	4	6	40	20	-	-	2	74	$ 11,212	$ -	$ 11,212
Flow Monitoring (11 manholes for a 7-day period)	2	-	-	8	-	-	-	-	10	$ 1,700	$ 17,710	$ 19,410
City Council Presentation	6	2	-	8	6	-	-	2	24	$ 3,760	$ 100	$ 3,860

Notes:

1. Amounts shown are average rates in fee (Exact rates for individual staff may vary from those shown).
2. Total shown does not include the Optional Scope Items.
3. Computer charges included in hourly rates.
4. Fees shown include anticipated reimbursible costs.

PSOMAS

Claim History

Psomas has had no legal judgments in the last five (5) years. As is common with leaders in our industry, however, we have been involved in claims over the years. Since claim information is not public record, we consider it to be highly confidential in nature. If additional information is required, please contact Psomas' General Counsel, Debra Lambeck, at (213) 223-1503.

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Client#: 6184 PSOMAS

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY) 10/11/07

PRODUCER
Dealey, Renton & Associates
P. O. Box 10550
Santa Ana, CA 92711-0550
714 427-6810

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE

INSURED
PSOMAS
11444 West Olympic Blvd.,Suite 750
West Los Angeles, CA 90064-1549

INSURER A: Zurich American Ins. Co.
INSURER B: XL Specialty Insurance Co.
INSURER C: American Zurich Insurance Company
INSURER D:
INSURER E:

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS MADE X OCCUR X CONTRACTUAL X BFPD, XCU GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC	GLO916014500 INDP. CONTRACTORS INCLUDED	10/15/07	10/15/08	EACH OCCURRENCE FIRE DAMAGE (Any one fire) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS -COMP/OP AGG	$1,000,000 $1,000,000 $10,000 $1,000,000 $2,000,000 $2,000,000
C	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS	BAP916015200	10/15/07	10/15/08	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$1,000,000 $ $ $
	GARAGE LIABILITY ANY AUTO				AUTO ONLY - EA ACCIDENT OTHER THAN AUTO ONLY: EA ACC AGG	$ $ $
	EXCESS LIABILITY OCCUR CLAIMS MADE DEDUCTIBLE RETENTION $				EACH OCCURRENCE AGGREGATE	$ $
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	WC916014200	10/15/07	10/15/08	X WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$1,000,000 $1,000,000 $1,000,000
B	OTHER Professional Liability	DPR9609143	10/15/07	10/15/08	$1,000,000 per claim $1,000,000 annl aggr.	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS
General Liability policy excludes claims arising out of the performance of professional services
Evidence of coverages in force.

CERTIFICATE HOLDER | ADDITIONAL INSURED; INSURER LETTER: ____

FOR PROPOSAL USE ONLY

CANCELLATION Ten Day Notice for Non-Payment of Premium

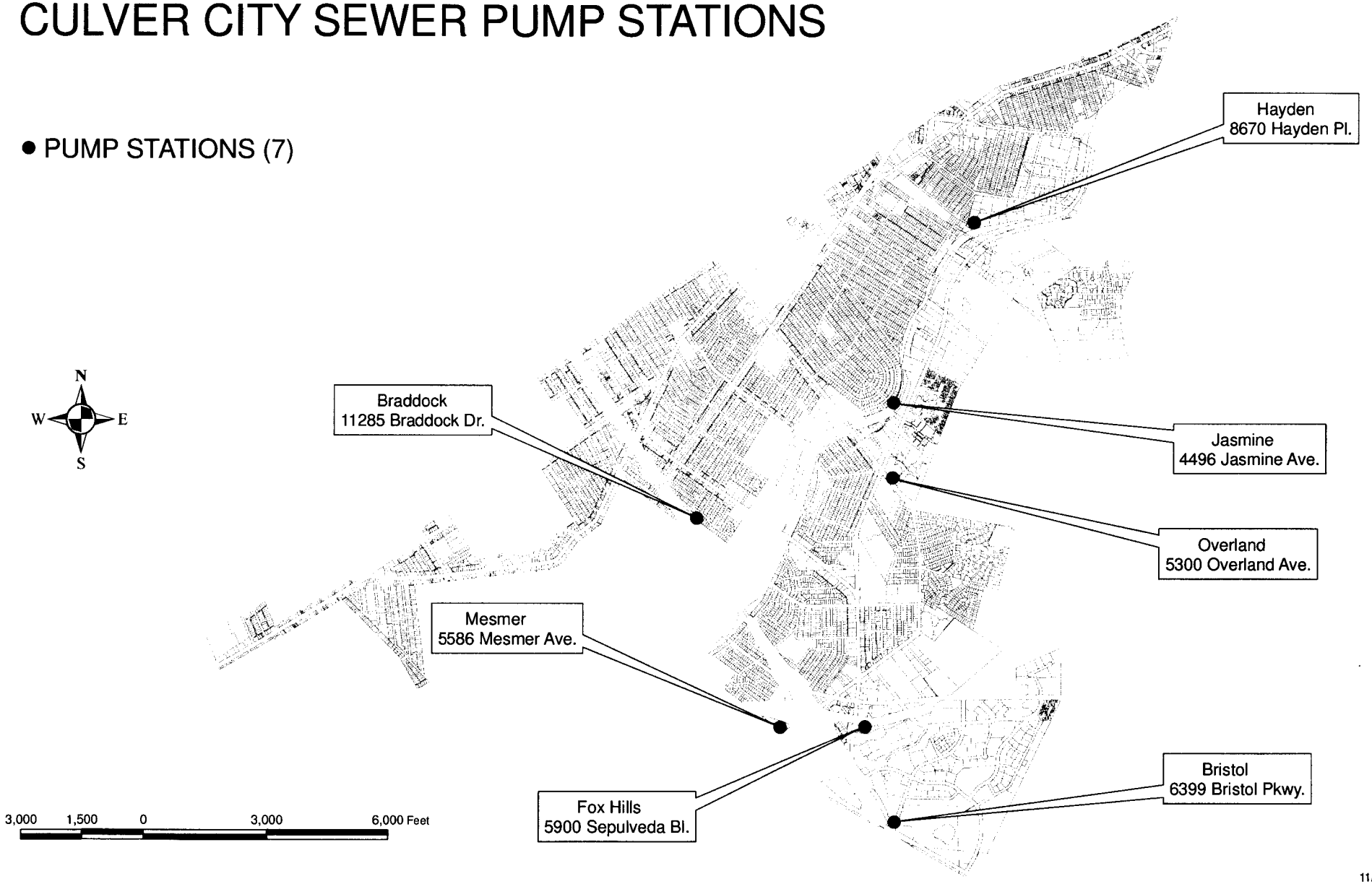
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

44

CULVER CITY SEWER PUMP STATIONS

- PUMP STATIONS (7)



11/28/07