

Proposal for

Conceptual Design Study of Various Potential Sewer Main Extensions



W.O. 16743.02

PREPARED BY:
Ronald N. Sickafoose, P.E.

February 19, 2008
Revised April 25, 2008



Penfield & Smith

111 East Victoria Street
Santa Barbara, CA 93101

Tel (805) 963-9532
Fax: (805) 966-9801

www.penfieldsmith.com



Penfield & Smith

W.O. 16743.02

April 25, 2008

East Victoria Street
Santa Barbara, CA 93101

805-963-9532
805-966-9801

www.penfieldsmith.com

Mr. John Schoof, Acting Water Resources Supervisor
City of Santa Barbara
Public Works Department
P.O. Box 1990
Santa Barbara, CA 93101

**Subject: Proposal for Conceptual Design Study
Four Areas of Potential Sewer Service**

Dear Mr. Schoof:

We are pleased to present this revised proposal for engineering and surveying services per your request letter dated January 29, 2008 (RFP) and recent telephone communication. We understand that the City of Santa Barbara, in conjunction with Santa Barbara County's Environmental Health Department, is considering sewer extension projects to serve four neighborhoods in the Santa Barbara area.

The attached proposal has been prepared to address all of the expected tasks and selection criteria. Penfield & Smith is able to meet all of the standard insurance, indemnification and business license requirements set by the City of Santa Barbara.

Should you require additional information or wish to discuss our proposal further, please contact the undersigned. If the proposal is satisfactory, please issue the appropriate written authorization. Again, thank you for considering Penfield & Smith for this project.

Very truly yours,

PENFIELD & SMITH

Ronald Sickafoose, P.E.
Principle Engineer
RCE 32187

Carrie Collins, P.E.
Associate Engineer
RCE 70345

nta Barbara
marillo
nta Maria
ncaster

vil Engineering
nd Surveying
nd Use Planning

onstruction
ana, ent & Inspection

affic & Transportation
gineering

ansportation Planning

TABLE OF CONTENTS

Cover Letter

Table of Contents

Proposal

Project Understanding/Approach..... 1

Scope of Work.....3

Services Not Included4

Consultant Selection Criteria4

Proposed Fee & Method of Payment..... 5

Time of Performance 5

Rate Schedule 6

Fee Estimate 7

Resumes..... 8

Topographic Exhibits 11

PROJECT UNDERSTANDING/APPROACH

The primary goal of the project as stated in the RFP is to determine feasible options for providing sewer service in the identified areas. The work will include the preparation of cost estimates for the construction of both the public improvements and work on private property. This cost data can be utilized to roughly estimate the costs per benefiting parcel, recognizing that conditions (costs) may vary substantially for the parcels within a study area. We will provide a cost allowance for work on private property such as laterals, pumps, septic system abandonment, landscaping, paving and other restoration work. We have found it helpful on similar projects to estimate a "best case" and "worst case" scenario for this work.

The stated goal for this project is nearly identical to the goal of the study that Penfield & Smith recently performed for the City's Braemar Ranch sewer feasibility study. P&S staff is very familiar with the concerns and issues that must be addressed at the early stage of this project. The study document is a communication tool to inform the property owners and other interested parties what would be the construction requirements and costs associated with septic-to-sewer projects for these neighborhoods.

We visited each of the four study areas and reviewed the topographic conditions, the character of the neighborhoods and the general layout of the existing sewer systems in the vicinity. Attached are topographic exhibits for easy reference. All study areas are currently developed and each area appears to have unique challenges. Many of the existing residences in all areas are at a lower elevation than the adjacent street.

Area #2 appears to have the best opportunity to be served with conventional gravity main extensions. However, Vista Vallejo is a narrow road and the potential for utility conflicts is high. The existing roads are in poor condition and it is likely that road restoration work would be substantial.



*Vista Vallejo – Looking North
Challenge: Narrow road*

Portions of **Areas #1 and #3** appear to have an opportunity to have sewer service with gravity mains, provided there is sufficient capacity in the neighborhood collections systems. Sewer service for the homes along La Entrada Drive, La Senda Drive and Sunset Road will be difficult without pumping and/or mains located on private property.



*La Entrada – Looking West
Challenge: Typical residence located below street level*

Area #4 will be the most challenging of the study areas to design without a public pump station or a “community force main” that would require all residences to have individual pump systems. Three such community force main systems are planned in the Carpinteria area to avoid deep gravity mains and public pump stations. The concept may not be desirable or appropriate for this project, but it will be an alternative that we will likely consider.



Calle Cita
Challenge: Low point in roadway

We are well aware of the City’s desire to avoid constructing sewers within private property or the construction of public pump stations. If such conditions can be avoided by the installation of private pump stations for some of the residences, we have found private pumps to be an accepted and reliable solution.

The project will include estimating the existing and additional flow rates (based on agreed per lot duty factors) that would be discharged into the existing collection systems. The scope of this project includes evaluating the existing systems’ capacity within a limited area downstream of the project area. The age and condition of the existing sewers would also determine their suitability for the project. The identification of the need to replace existing sewers would also be part of the scope of this project. P&S staff will consult with City staff to review known problem areas that would need to be addressed as part of a new sewer extension project. Although we do not propose to conduct inspections of the existing facilities, our scope of service does include a time budget to review inspection DVD’s for areas of concern and assist City staff with the evaluation of the existing sewer system. The method to fund replacement work and the cost impacts to the benefiting parcels would be a topic for discussion with City staff.

P&S will provide field surveying to provide detailed information that will help evaluate the existing system and potential new sewer alignments. It will be important to understand the magnitude of several “low spots” to evaluate the depth requirements for gravity sewer analysis. The primary goal of this effort is to determine where gravity sewer opportunities exist and where pump stations would be required. There may be critical manholes for which we will want to confirm information shown on record drawings. A substantial survey effort is not anticipated for this project. Although a survey work plan will be prepared as part of our initial project planning effort, we anticipate the need to provide supplemental surveying at the following areas:

- Modoc Road, west of Veronica Springs Road
- Vista Vallejo, flat area
- Sunset Road, west end

P&S will prepare a draft report including exhibits for review by City and County staff. The final report will incorporate comments from City and County staff.

We understand that the City will provide record information for the existing sewer collection system and any video inspections that are agreed to be appropriate. The City will also be the main contact for all property owners and will distribute information and/or organize neighborhood meetings as necessary.

SCOPE OF WORK

Based on our understanding of the project requirements and our experience with sewer systems, we propose the following scope of services:

1. Meet with representatives of the City to review existing conditions, design criteria, project schedule and confirm study goals.
2. Consult with City staff and document the size and condition of the existing collection system in the vicinity of the study areas. Identify any portions of the collection system that may be in poor condition or justify further inspection.
3. Estimate existing and proposed sewer flow rates and estimate the capacity of the existing collection system in the project area.
4. Develop conceptual sewer system designs to serve each study area, including alternative route designs where appropriate. If pumps can be avoided by routing sewer mains on private property, easement requirements will be identified.
5. Analyze the advantages and disadvantages of public pump stations versus private pump systems for those locations where pumping would be required.
6. Provide topographic surveying services to provide detailed information to help evaluate the existing system and potential new sewer alignments.
7. Prepare a construction cost estimate for the sewer extension projects. The costs for environmental analysis or cost to form assessment districts will not be included, but will be acknowledged as costs to be determined in the future.
8. Prepare a project cost estimate *per participating parcel* which will include a range of costs for on-site improvements such as septic tank abandonment, lateral construction, pump stations, connections fees, and the share of the cost for the public main extension. The project cost estimate will identify the non construction costs that are typical in an assessment district funded project. The ability to estimate the magnitude of the environmental and non construction costs will be limited at this concept level of design and the reliability of such costs will be low. The per-parcel costs will be an average cost and again, it should be recognized that the private improvement costs would vary substantially based in the unique conditions at each property.
9. Prepare a draft report including exhibits for submittal to City and County staff. The report will be finalized to incorporate comments from City and County staff. The draft and final report submittals will include electronic PDF format.
10. Attend meetings with City staff. Our fee estimate assumes six meetings, including a kick-off meeting, information research meeting and a meeting to review the draft report.
11. Attend one public information meeting for each of the 4 neighborhood areas that will be organized by the City to present the results of our work and to answer questions.

SERVICES NOT INCLUDED

The following services and all other services not specifically listed herein are excluded:

1. Title Company reports, services and fees.
2. Environmental analysis or services by consultants other than P&S.
3. Final engineering and design of proposed sewer system.

CONSULTANT SELECTION CRITERIA

The RFP indicates that the Consultant will be selected based on the content of the proposal with particular emphasis on the following four items:

- Description of Proposed Approach
- Demonstrated Knowledge of Potential Project Issues
- Experience with Similar Projects
- Proposed Cost of Service

Our approach to this project is described above and was developed in coordination with City staff for the recent Braemar Ranch Project. It is recognized that implementation of a neighborhood sewer project requires support of the property owners and the design concept must be acceptable to the City. Our general approach is to perform sufficient engineering to be comfortable that a good design is achievable and to prepare cost information for consideration of the benefiting property owners.

Our experience with other septic-to-sewer projects on the South Coast and our experience with sewer design in general have allowed Penfield & Smith to become very familiar with the engineering and community issues that will need to be addressed. As was noted in the RFP, these projects have community-wide interest and the benefiting property owners can be expected to have a wide range of support and/or concern. We have participated in community meetings and public hearings for similar projects and we expect that our recommendations and cost information will generate questions and/or suggestions that alternatives be considered. We will be prepared to explain the basis of our recommendations and respond to the input received from the property owners and other members of the community.

There have been a number of septic-to-sewer projects proposed in recent years where the preparation of a design study was one of the initial tasks. Penfield & Smith has prepared feasibility study reports for the following communities:

- | | |
|--------------------|-------------------------------|
| 1. Braemar Ranch | City of Santa Barbara |
| 2. Mission Canyon | County of Santa Barbara |
| 3. Padaro Lane | Carpinteria Sanitary District |
| 4. Sand Point Road | Carpinteria Sanitary District |
| 5. Sandyland Cove | Carpinteria Sanitary District |
| 6. Rincon Point | Carpinteria Sanitary District |

Based on our experience, we can provide the engineering services needed for this project and assist with coordination efforts with property owners and community members.

The estimated time to perform our services and prepare the study report is based on our understanding of the project goals at this time. We have investigated each of the study areas and we believe that we have provided sufficient budget to perform our tasks efficiently and to address the information needs of the project. The presentation of our fee is provided in the next section of this proposal.

PROPOSED FEE & METHOD OF PAYMENT

Our proposed services will be performed on a time and materials basis and shall be billed monthly at the rates then currently in effect. Charges for "time" include professional, technical and clerical support services provided by Penfield & Smith. "Materials" include all reimbursable expenses, such as photocopies, FAX transmissions, postage, shipping/delivery, long-distance phone calls, prints, maps/documents and outside consultant fees.

Based on our understanding of your requirements and our experience with similar projects, we estimate that the fee required for our services will be approximately as follows:

Study Costs for Area #1	\$11,600
Study Costs for Area #2	\$11,600
Study Costs for Area #3	\$11,600
Study Costs for Area #4	\$18,700
TOTAL	\$53,500

We agree that the estimated fee will not be exceeded without your prior written authorization. Included in this proposal are a detailed breakdown of our estimated hours and fees ("Fee Schedule") along with our standard Rate Schedule. The estimated fee is based on a project that includes all four study areas. If one or more of the study areas are not authorized, it will be necessary to adjust the fee estimate for tasks that cannot be eliminated.

We have estimated the cost of our services based on our understanding at this time of the scope and complexity of the work. During the performance of our services, the need for additional or expanded services may be determined. We will make every reasonable effort to keep you informed of our progress and costs incurred. We agree that the estimated fee will not be exceeded without prior approval from the City.

TIME OF PERFORMANCE

Based on our current workload, we estimate that the draft report can be completed in approximately 8 weeks after we receive authorization to proceed. Note that time does not include review time by the City or County.

RATE SCHEDULE

Engineering

Engineering Technician.....	\$70
Associate Technician.....	80
Senior Technician	90
Designer.....	105
Senior Designer.....	120
Junior Engineer	85
Assistant Engineer	105
Associate Engineer	125
Senior I Engineer	140
Senior II Engineer	155
Principal Engineer.....	175

Surveying

Survey Technician.....	\$65
Junior Surveyor	78
Assistant Surveyor	97
Associate Surveyor	114
Senior I Surveyor	130
Senior II Surveyor	146
Principal Surveyor.....	167

One-Man Survey Crew with GPS or Robotic Total Station.....	\$155
Prevailing Wage	170
Two-Man Survey Crew	180
Prevailing Wage	215
Three-Man Survey Crew.....	240
Prevailing Wage	265

Planning

Planning Technician.....	\$65
Junior Planner	80
Assistant Planner	95
Associate Planner.....	110
Senior I Planner	130
Senior II Planner	145

Principal Planner	160
-------------------------	-----

Construction Management

Construction Technician.....	\$85
Assistant Construction Manager.....	105
Associate Construction Manager.....	120
Senior I Construction Manager	135
Senior II Construction Manager	150
Principal Construction Manager	175
Construction Inspector	\$80
Prevailing Wage.....	105
Senior Construction Inspector	95
Prevailing Wage.....	110
Chief Inspector/Owner's Representative	105
Prevailing Wage.....	115

Geographic Information Systems (GIS)

GIS Manager.....	\$155
GIS Analyst	125
GIS Technician	85

General

Technical Support.....	\$60
Special Consultant	195
<i>(Principal with specialized skills in engineering or planning)</i>	
Outside Consultant.....	Cost + 10%
Outside Reimbursable.....	Cost + 10%

FEE ESTIMATE

PROJECT COST ESTIMATE
 Project No.: 167-02
 Description: S: FEASIBILITY STUDY
 Client: C: F SANTA BARBARA
 Date: February 14, 2008
 File Name: RNS FEE EST 2-14-08

(WITH PREVAILING WAGES)
 Prepared by: RNS
 Office: 1
 Billing Type: T&M

PENFIELD & SMITH
 111 East Victoria Street
 Santa Barbara, CA 93101
 (805) 963-9532

TASK	Hours										TOTAL HOURS	LABOR COST
	Senior CAD/LDD Tech	Junior Engineer	Assoc Engineer	Principal Engineer	Senior II Surveyor	2-Man Survey	Tech Support					
MEETINGS AND RESEARCH											18	2210
EX COLLECTION SYSTEM EVALUATION		4	12	8							24	3240
FLOW / CAPACITY ANALYSIS			16	4							20	2700
FIELD INVESTIGATIONS			8	2							10	1350
FIELD SURVEYING					16						16	5776
DEVELOP ALTERNATIVE CONCEPTS			12	4							16	2200
ANALYSIS AND PRELIMINARY DESIGN			16	8							24	3400
COST ESTIMATES - PUBLIC SYSTEMS			24	8							32	4400
COST ESTIMATES - PRIVATE SYSTEMS			8	4							12	1700
DRAFT REPORT AND EXHIBITS	30	10	16	32				8			96	11630
REVIEW MEETINGS			8	16				2			24	3800
ADDRESS COMMENTS			8	16				8			30	3500
FINAL REPORT SUBMITTAL			16	20							36	4860
PUBLIC MEETING				4	8						12	1900
Q.C. / PROJECT MANAGEMENT												
TOTALS	30	44	148	122	16	16	18				394	53146

Classification	\$/hr	Classification	\$/hr	Expenses		Billing Factor	Reimbursables	Consultant
				Cost	Factor			
4 Senior Cadd/LDD Technician	90.00			*	1.15			0
7 Junior Engineer	85.00			*	1.15			0
9 Associate Engineer	125.00			*	1.15			0
12 Principal Engineer	175.00			*	1.15			0
18 Senior II Surveyor	146.00			*	1.15			0
21 Two-man Party	215.00			*	1.15			0
39 Technical Support	60.00			*	1.15			0
				200			230	
				*			0	
Average Rate:				134.888			\$230	\$0
Grand Total =								\$53,376

RESUMES



EDUCATION

- B.S. Civil Engineering, University of California, Irvine, 1977

LICENSING

- Professional Engineer No. 32187, California

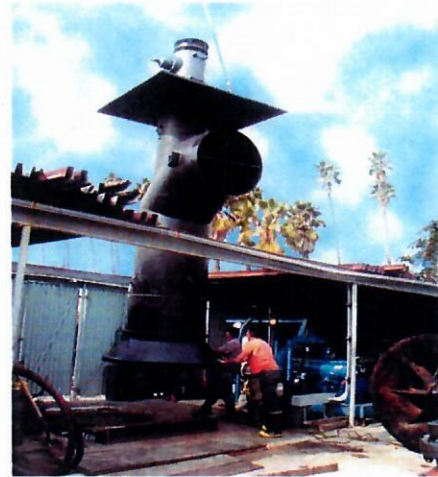
MEMBERSHIP

- American Society of Civil Engineers
- American Water Works Association
- Groundwater Resources Association of California

Mr. Sickafoose joined **Penfield & Smith** in 1981 as a Project Manager responsible for engineering design, specifications and construction management of various public and private projects. The majority of his work is water system related including pumping, distribution, storage and treatment facilities. Other areas of expertise include structural design, estate and commercial land development. With over 30 years of consulting engineer experience, Mr. Sickafoose has an excellent understanding of the planning, analysis, design and implementation of major public works facilities and private development projects.

His recent experience at **Penfield & Smith** includes:

- Lead engineer for the University of California's water system renovation and master plan project at the Santa Barbara campus. The project included the development and calibration of a campus wide model using Bentley's WaterCAD software. A strategy for a phased water main replacement program was developed to accommodate the planned growth of the campus over the next 50 years. The initial phase of construction is schedule for 2008 with a project budget of \$2,000,000.
- Project Manager and Design Engineer for the Montecito Water District's Romero Pump Station. The project provided a new pumping facility to transfer water into a higher pressure zone at flow rates up to 1,000 gpm. The station building is located in a residential neighborhood and was designed with special noise suppression improvements to mitigate the turbine pump motor noise.
- Project Manager for Ty Warner's renovation project of the Santa Barbara Biltmore Hotel and Coral Casino pool and dining facility. The multi-million dollar project included new parking facilities, seawall replacement and new hardscape to bring the facility into compliance with ADA accessibility standards. Utility improvements included new sewer main construction using cured-in-place pipe (CIPP technology).
- Project Manager and Design Engineer for the water supply, storage and pumping systems for a 42-acre estate in Montecito. The project required the integration of private well supplies and water service from the Montecito Water District. Water storage was incorporated into decorative water features and two booster stations were constructed to meet flow and pressure needs of the extensive landscape irrigation systems.
- Project Manager and Design Engineer for a ranch and estate development in the San Roque Canyon area of Santa Barbara. The project included grading and drainage improvements for residential equestrian facilities and construction of approximately 4,300 lineal feet of hillside access road. Private water and wastewater facilities were required to support the residential and agricultural development and the well pump is operated with solar power due to the remote location.





CARRIE E. COLLINS, P.E.
Associate Engineer

EDUCATION

- B.S., Environmental Engineering, California Polytechnic State University, San Luis Obispo, CA 2002

LICENSING

- Professional Engineer No. 70345, California

MEMBERSHIP

- Member, American Society of Civil Engineers
- Member, American Water Works Association

CONTINUING EDUCATION

HEC-RAS River Analysis System Course

- WaterCAD
- Pumping Systems Design
- Basic Well and Booster Pumps
- Drinking Water Primary Instrumentation and Basic Electrical

Ms. Collins joined **Penfield & Smith** in July 2004 with 21 months of prior experience. She is proficient in a variety of computer applications including AutoCAD®, Land Development Desktop®, WaterCAD, HEC-2, HEC-RAS, and Microsoft Office Suite.

Prior to employment with **P&S**, Ms. Collins worked for Carollo Engineers in Santa Ana as a Wastewater Engineer. Responsibilities included calculation and design of wastewater treatment plant operations including chlorine contact basins, rapid sand filtration, chemical feed systems, and sludge digestion systems. In addition Ms. Collins prepared Water System Master Plans incorporating ArcGIS.

Ms. Collins has been involved in the design and construction investigation on various projects within Santa Barbara County, including:



ONI WEST FIBER OPTIC CONDUIT: Client- UCSB. Design and construction investigation for 5700 ft of directionally drilled HDPE conduit.

RINCON, SANDY LAND COVE, AND SAND POINT ROAD SEPTIC TO SEWER STUDIES: Client- Carpinteria Sanitary District. Preliminary Design of pump stations and preparation of exhibits, report, and cost estimates.

BRAEMAR RANCH SEWER EXPANSION FEASIBILITY STUDY: Client- City of Santa Barbara. Research, calculations, exhibits, report writing, and cost estimates for feasibility report.

INFRASTRUCTURE RENEWAL PROJECT: Client- UCSB. WaterCAD modeling of entire UCSB campus, existing and future demand calculations, preparation of exhibits, and cost estimates for proposed phased project.

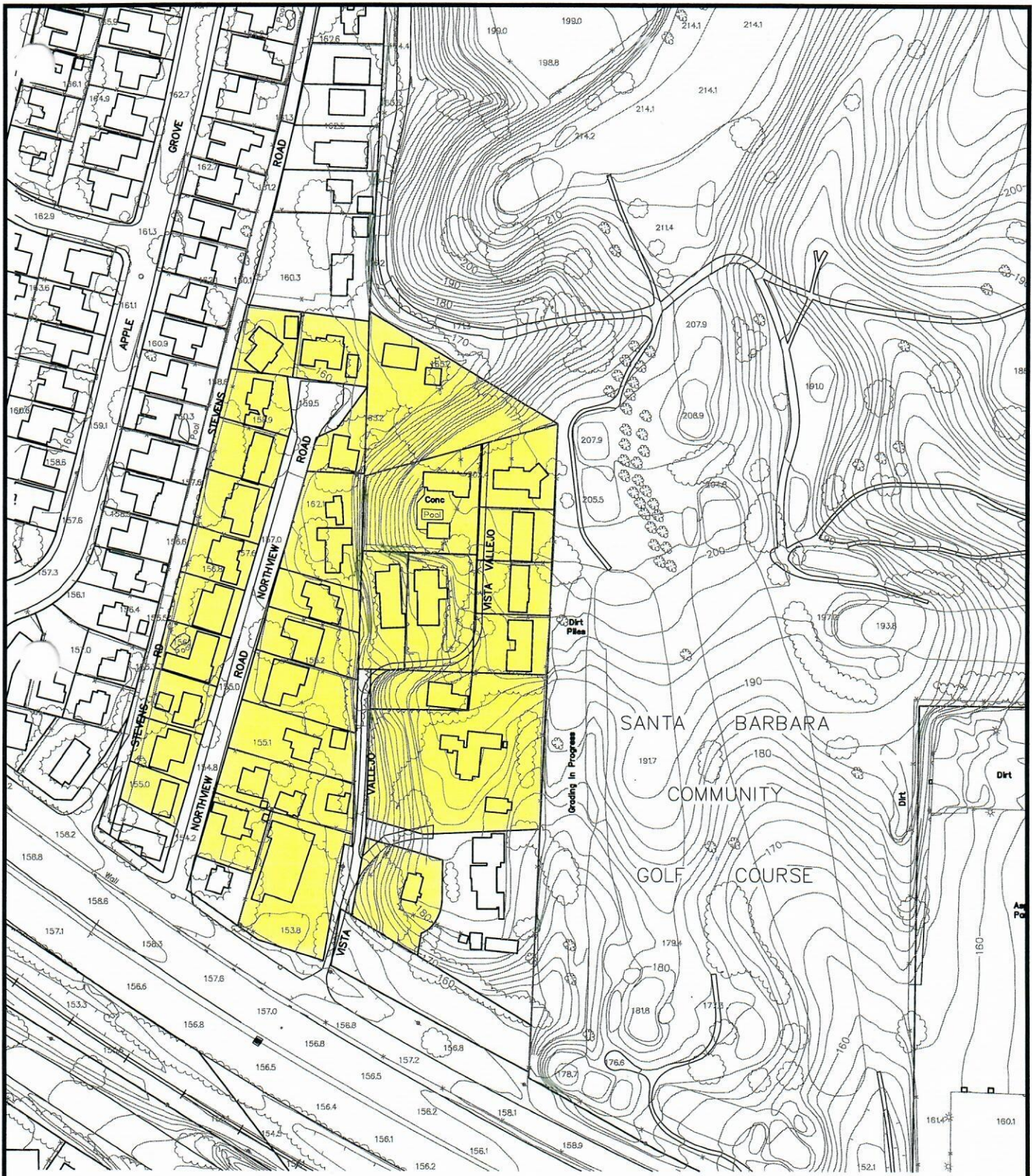
1025 FAIRWAY (TY WARNER RESIDENCE): Client: Ty Warner. Site Grading, drainage, and utility design.

SAN YSIDRO CREEK LETTER OF MAP REVISION: Client- Mr. John Glanville. HEC-2 modeling for 7,500 ft of creek and report preparation.

SAN JOSE CREEK CONDITIONAL LETTER OF MAP REVISION: Client- City of Goleta. HEC-RAS modeling for 9,000 ft of creek and report preparation.

SAN JOSE CREEK CAPACITY IMPROVEMENT PROJECT: Client- City of Goleta. Design of concrete channel and drawing preparation.

TOPOGRAPHIC EXHIBITS



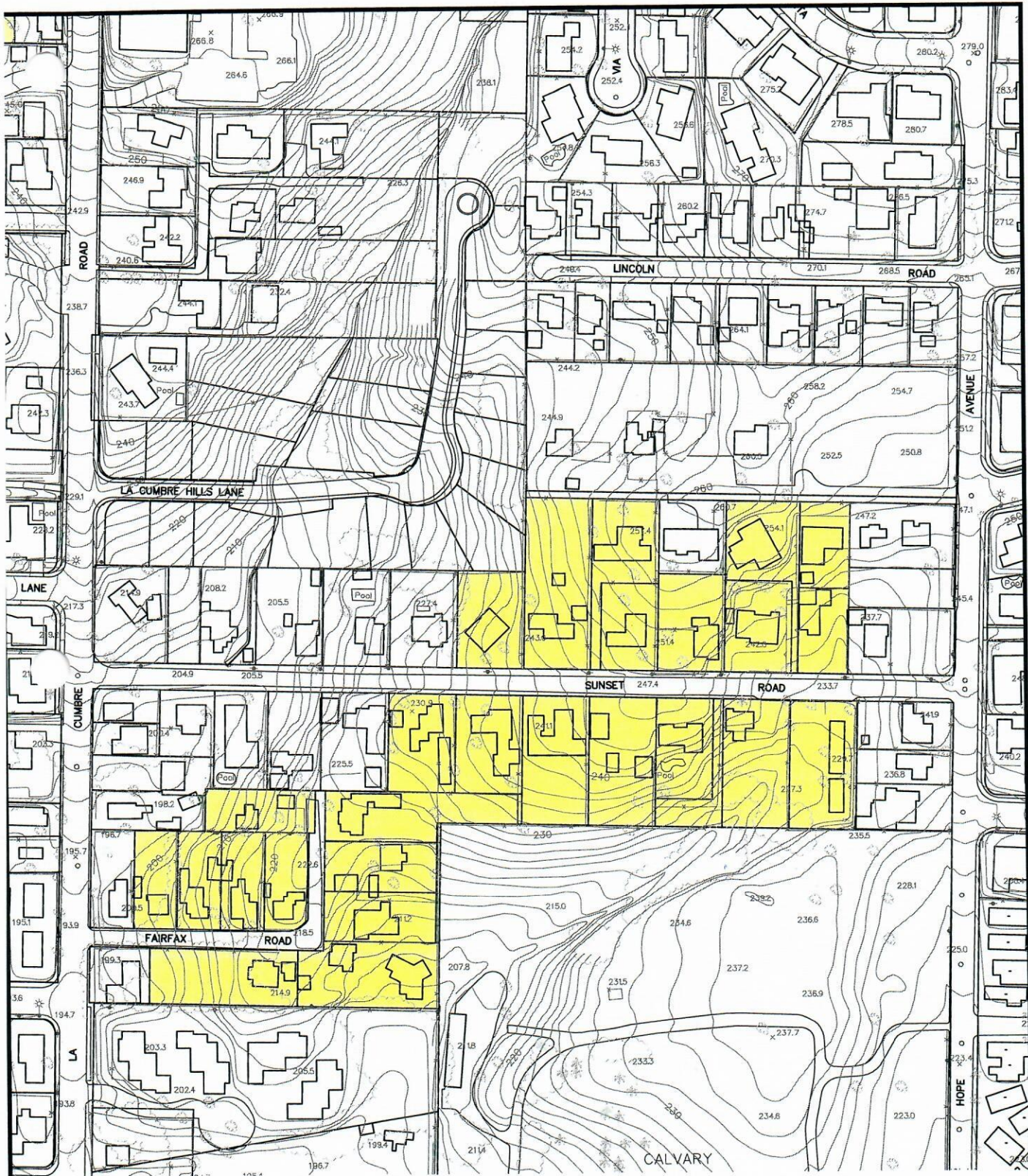
PROJECT AREA #2
NORTHVIEW ROAD AND VISTA VALLEJO
SEWER SYSTEM ANALYSIS

SANTA BARBARA, CALIFORNIA
 SCALE: 1"=200'



Penfield & Smith
 Engineering · Surveying · Planning
 · Construction Management ·





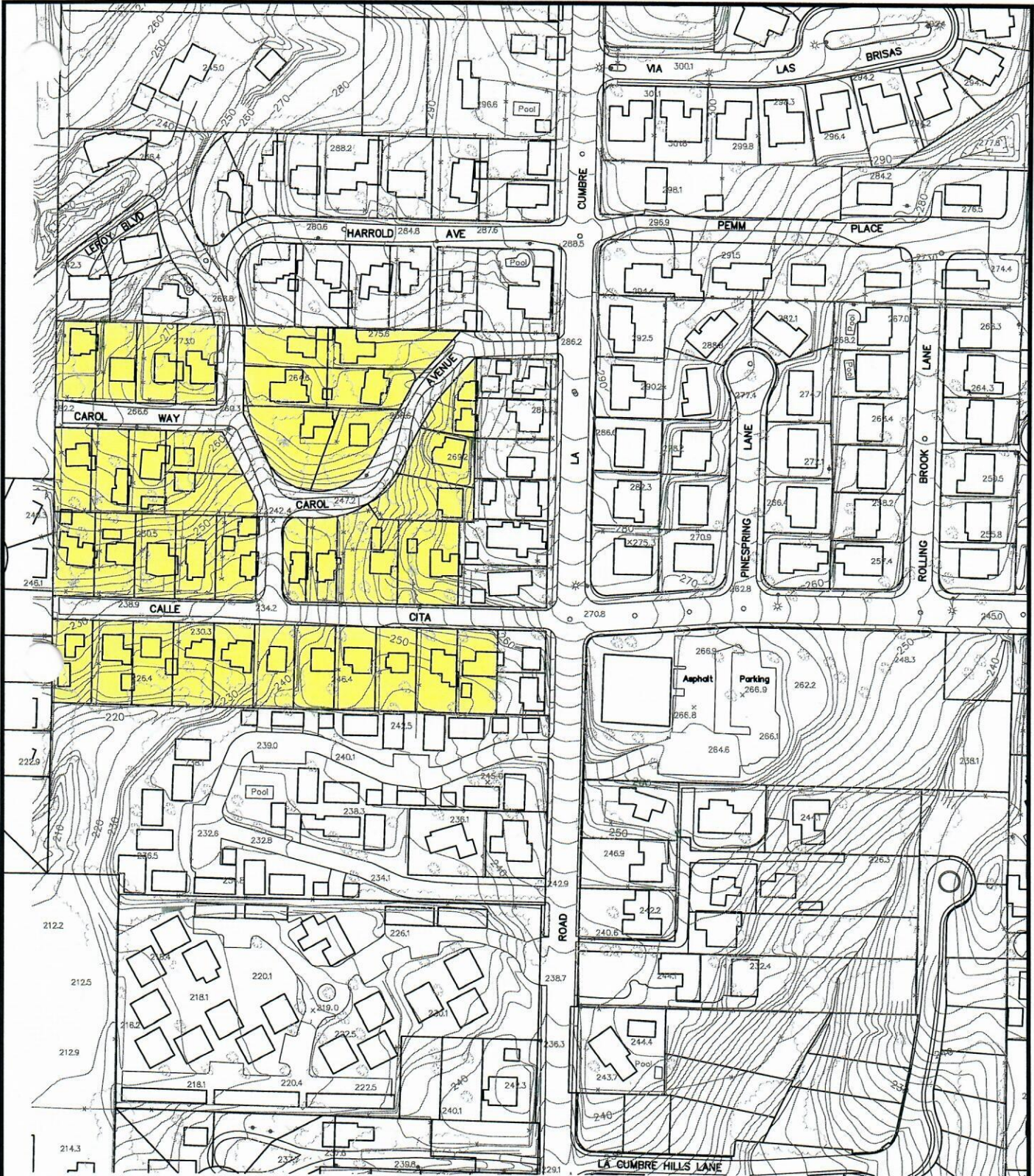
PROJECT AREA #3
SUNSET ROAD AND FAIRFAX ROAD
SEWER SYSTEM ANALYSIS

SANTA BARBARA, CALIFORNIA
 SCALE: 1"=200'



Penfield & Smith
 Engineering · Surveying · Planning
 · Construction Management ·





PROJECT AREA #4
CALLE CITA/ CAROL AVENUE/ RUSSELL WAY
SEWER SYSTEM ANALYSIS

SANTA BARBARA, CALIFORNIA
 SCALE: 1"=200'



Penfield & Smith
 Engineering · Surveying · Planning
 · Construction Management ·



Braemar Ranch Conceptual Sewer Main Extension Project

