


STAFF REPORT

TO: HONORABLE MAYOR AND CITY COUNCIL
FROM: GREG RAY, PUBLIC WORKS DIRECTOR/CITY ENGINEER 
SUBJECT: AUTHORIZATION TO ENTER INTO A CONSULTANT CONTRACT FOR PAVEMENT MANAGEMENT SYSTEM UPDATE

BACKGROUND

A proposal review team consisting of City staff reviewed proposals received from five consulting firms. The team scored Pavement Engineering Incorporated the highest. Staff is recommending Council authorize staff to enter into a contract for development of an updated pavement management system with Pavement Engineering Incorporated.

At their January 21st City Council meeting, Council authorized staff to seek proposals from qualified consulting firms to collect new pavement condition data, prepare an updated pavement management system and to develop project scenarios for use in seeking bond funds to repair City streets.

In early February staff published the request for proposals. The City received five proposals by the February 18th deadline. Staff ranked the proposals by assigning scores to various components of the proposals and qualifications of the consulting firms. The highest ranking proposals were then compared on a basis of cost and best value to the City. Pavement Engineering Incorporated scored the highest and staff determined their proposal offered the best value.

DISCUSSION

The City Council has identified street repair as one of Council's highest goals. Unfortunately the City does not receive sufficient income to keep up with the rate of street deterioration. As a result, the majority of the City's streets are now in poor to very poor condition. At their January 21st City Council meeting Council heard an analysis of various funding options and ultimately directed staff to prepare a general obligation bond survey to determine if the City's residents would support a bond measure for repair of the streets.

In order to provide accurate cost information for a number of possible funding scenarios, staff will need to have accurate information about the condition and structure of the City's streets. The data will be input into a pavement management system program. The program will allow staff to analyze different repair strategies and funding scenarios to determine the cost of each.

APPROVED FOR FORWARDING



**ROBERT PERRAULT
CITY MANAGER**

Please Review for the Possibility of a Potential Conflict of Interest:

- | | |
|--|-----------------------------------|
| <input checked="" type="checkbox"/> None Identified by Staff | <input type="checkbox"/> Bright |
| <input type="checkbox"/> Peterson | <input type="checkbox"/> Marshall |
| <input type="checkbox"/> Lee | <input type="checkbox"/> Nicolls |

Meeting Date: March 17, 2014

Agenda Item No. 15

The cost estimates can then be presented to residents in a bond survey to determine which scenario they are willing to support.

None of the top scoring consulting firms included deflection testing or core sampling in their cost proposals. Staff has determined that both processes are needed in order to provide accurate information for developing cost estimates. The amount of core samples and deflection testing will be determined once staff receives the data from the field condition surveys. Core samples and deflection testing could also be provided by a soils engineering firm. The cost for these additional procedures is estimated to be well within the adopted budget.

The proposed contract with Pavement Engineering Incorporated will be subject to approval of form and content by the City Manager and City Attorney. Work on the pavement management system is scheduled to begin within 10 days of the execution of the contract and is expected to be complete by early June.

ALTERNATIVES

The Council has the following alternatives to consider:

1. Adopt the Resolution authorizing staff to enter into a consulting contract with Pavement Engineering Incorporated for development of an updated pavement management system
2. Provide alternate direction to staff.

RECOMMENDATION

It is recommended that the Council adopt the Resolution authorizing staff to enter into a consulting contract with Pavement Engineering Incorporated for development of an updated pavement management system.

FISCAL IMPACT

Council has approved a budget of \$60,000 to complete the pavement management system update. The proposal from Pavement Engineering Incorporated estimates a cost of approximately \$28,720. Once the City receives data from the field surveys then the extent of deflection testing and core sampling can be determined. Staff is estimating that the approved budget will be sufficient to cover these additional expenses.

PUBLIC NOTIFICATION

The agenda was posted in accordance with the Brown Act.

ATTACHMENTS

1. Resolution Authorizing the City to Enter into a Contract
2. Request for Proposals
3. Pavement Engineering Incorporated Proposal

RESOLUTION NO. 14-_____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GROVER BEACH, CALIFORNIA, AUTHORIZING THE CITY TO ENTER INTO A CONTRACT FOR PREPARATION OF AN UPDATED PAVEMENT MANAGEMENT SYSTEM

WHEREAS, the City Council has identified street repair as one of their highest priorities; and

WHEREAS, the City Council has determined that an updated pavement management system is needed in order to provide information for potential bond funding; and

WHEREAS, Council authorized staff to seek proposals for preparation of an updated pavement management system; and

WHEREAS, City staff received and ranked five qualified proposals and determined that the most qualified consultant whose proposal offered the best value to the City was Pavement Engineering Incorporated.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Grover Beach, California, does, subject to approval of form and content by the City Manager and City Attorney, hereby authorize the City to enter into a consultant contract with Pavement Management Incorporated for preparation of an updated pavement management system.

Upon motion by Council Member _____ and second by Council Member _____ and on the following roll call vote:

- AYES: Council Members –
- NOES: Council Members –
- ABSENT: Council Members –
- ABSTAIN: Council Members –

the foregoing Resolution was **PASSED, APPROVED, and ADOPTED** at a Regular meeting of the City Council of the City of Grover Beach, California, this 17th day of March, 2014.

DEBBIE PETERSON, MAYOR

Attest:

DONNA L. McMAHON, CITY CLERK

DRAFT



City of Grover Beach

DEPARTMENT OF PUBLIC WORKS

REQUEST FOR PROPOSAL PAVEMENT MANAGEMENT SYSTEM

The City of Grover Beach is seeking proposals from qualified professional engineering firms to develop a pavement management system.

Project Description:

The City has an existing Micro Paver P.M.S. with data based on a 2008 street condition survey. The City of Grover Beach has 9.6 million square feet of asphalt paved streets contained in the 2.25 square mile area of the City, population 13,156. The City is seeking funding to repair all of the City's streets over a period of 10 to 20 years. One option being considered is a General Obligation Bond. General Obligation Bonds cannot fund maintenance but can fund capital improvements.

The City is seeking proposals to perform new pavement condition surveys, targeted sampling and testing, procurement of a new P.M.S. software license for one seat and development of approximately eight (8) funding scenarios, including alternatives for pavement rehabilitation.

The overall results of the plan shall provide:

- Physical evaluation of the street pavement;
- Targeted sampling and testing as needed to achieve the desired project outcome;
- The ability to track the condition of pavement over time;
- Ability to establish optimum repair programs;
- The ability to allocate available funds cost effectively and identify the impact of various budget scenarios on pavement condition;
- A recommendation of the frequency for updating the program, once it is established;
- Ability to recommend specific and detailed rehabilitation methods and specifications, and provide detailed and accurate cost estimates for various funding scenarios;
- Ability to substitute different rehabilitation methods based on limitations associated with funding (Example: substitute full overlays for thin overlays);
- Staff training in use and modification of selected P.M.S. software.

StreetSaver® (MTC) program is to be the software used for this analysis. The City does not have the StreetSaver® (MTC) program, but would require unlimited access by at least one City employee and training to gain competency.

The City may allow windshield surveys or a combination of pavement distress survey methods. The consultant may need to conduct sampling and/or testing to determine project level recommendations and costs for various existing street sections and conditions. The consultant will be asked to justify methods and testing identified in their proposal.

Funding:

This project is funded with local funds.

Content of Proposal

1. **Scope of Services:** The draft scope of services is included in this document. The consultant is encouraged to review the scope of services and suggest changes as deemed necessary to meet the anticipated results. The submitted scope of services will be used as an exhibit to the contract with the City. Please include all services that are necessary for a complete project and any optional services as deemed appropriate. Include one presentation to the City Council of the final draft report.
2. **Schedule:** The consultant is requested to submit a project schedule. Please anticipate a two week turnaround for review of the draft study that is submitted to the City. A three month schedule is suggested for submittal of the final draft report and all anticipated funding scenarios. If the consultant cannot meet this schedule, please submit an alternate schedule.
3. **Fee:** The consultant selection will not be based upon the fee. The City wishes to avoid any foreseeable contract amendments and the consultant is encouraged to include all anticipated services in the scope of work. Please submit a fee with the proposal. Also, please include a discussion of the frequency and cost for updating the PMS program, once it is established.
4. **Project Team:** Identify the project team and specify the responsible licensed civil engineer. The final study shall be signed and sealed by the responsible licensed Civil Engineer.
5. **Qualifications:** Provide the qualifications of the key individuals on the project team.
6. **References:** Provide references of the key individuals of the project team, particularly the licensed project engineer. Please provide names and phone numbers of the references.
7. **Proposal Submittal Deadline:** Please submit your proposal to the Public Works Department, Attn: Greg Ray, 154 South 8th Street, Grover Beach, CA 93433 by **2:00 p.m. on Tuesday, February 18, 2014.**
8. **Consultant Selection Procedure:** The consultant selection procedure will conform to professional standards. The process will include evaluation of the written proposals, clarification of any proposal or contract issues and recommendation of consultant selection to the City Council.

Thank you for your time and effort in the preparation of this proposal. If you have any questions or require clarification regarding this Request for Proposal, they may be submitted via email to publicworks@grover.org.

PROPOSED SCOPE OF SERVICES

1. Consultant will update the City's pavement management system and migrate to the MTC StreetSaver® software.
2. Consultant will update the data base inventory of the City's street system (e.g. functional class, surface type, length, width, and number of lanes.)
3. Consultant will divide the street system into Management Sections (neighborhoods), based on various funding scenarios.
4. Consultant will enter Maintenance and Rehabilitation (M & R) History as available from the City.
5. Consultant will establish the decision trees within StreetSaver based on the City's preferred treatment strategies. All existing and desired treatments and unit costs will be entered.
6. Consultant will perform field evaluation inspections on the City's streets. The specific Management Sections to be inspected will be determined by the City and the Consultant. Consultant will be required to demonstrate ability to perform distress surveys in a manner consistent with MTC's practices and procedures.
7. Consultant will conduct sampling and testing of existing pavement sections as needed in order to develop project level recommendations for specific rehabilitation methods, including approximate sections and material specifications for various existing street sections and conditions.

Manual inspection: The most appropriate method to determine the Pavement Condition Index (PCI) of management sections of roads and streets is to conduct a walking distress survey. The distress definitions and descriptions are included in the MTC published "Pavement Condition Index Distress Identification manual for Asphalt and Surface Treatment Pavements," 3rd Edition, October 2002. For network level analysis, the City requires that at least 10 percent of the inspection units of each Management Section be inspected. The densities of all distress types and severities present are recorded and used to calculate the PCI for each inspection unit inspected. Those PCI values are then used to calculate the section PCI.

Automated inspection: The City may agree to incorporate pavement inspections that are not exclusively performed by walking. Other methods of distress survey include windshield surveys, automated distress surveys, semi-automated distress surveys and various hybrid combinations of these (herein are collectively referred to as "automated surveys") will be considered. Automated surveys will be performed by the consultant according to the distress definitions and descriptions in the MTC published documents cited in the previous paragraph.

8. Consultant will implement a Quality Assurance/Quality Control process with someone other than the initial pavement inspectors performing a re-inspection of at least 5% of the total number of Management Sections inspected under this scope of work.
9. Consultant will perform data entry of all distresses found during pavement inspection into StreetSaver. Once completed, consultant will calculate the PCI's.

PROPOSED SCOPE OF SERVICES - - continued

10. City will establish multiple funding scenarios including variable funding amounts, frequency or construction and duration of funding cycle.
11. Consultant will run at least eight (8) budget scenario analyses and show impacts through the use of GIS maps in the StreetSaver® GIS Toolbox. The eight (8) scenarios should include: unconstrained needs distributed evenly over multiple years, the "Break Even" point for annual funding and multiple funding/rehabilitation scenarios.
12. Consultant will provide recommendations, if shortfalls exist, for how the City can employ better preventive maintenance strategies following completion of a major funding cycle and for maintenance during the duration of various funding cycles.
13. Consultant will investigate full and partial rehabilitation options meeting the funding requirement for capital improvement and provide recommendation for application to specific street sections. Options shall include all relevant rehabilitation strategies, such as recycling, overlays, full depth replacements, etc.
14. Consultant will deliver a draft updated pavement management database, and Budget Options Report containing the above information, to the City for review.
15. Consultant will present an overview of the draft report to the City Council at a regular meeting.
16. Consultant will deliver an updated final report containing all relevant background information.



February 18, 2014

MP14-080

Greg Ray
Public Works Director / City Engineer
City of Grover Beach
154 South 8th Street
Grover Beach, CA 93433

Re: Citywide Pavement Management System Plan

Dear Greg:

We appreciate the opportunity to respond to the City's request for a citywide pavement management system plan. Based on our many years of work with public agencies throughout California, we are confident we can develop and deliver a pavement management system that not only tracks the City's pavement assets but will provide strategies for repairing, maintaining and preserving those assets at a consistent serviceable level economically through the StreetSaver® program.

We have extensive experience developing pavement management systems using MTC's StreetSaver® program and can customize a multi-year plan and budget for current and future maintenance needs. Our goal is to maximize the service life of pavement at the lowest possible cost using a "critical-point" management approach.

Regardless of the project, our commitment to the City of Grover Beach is to deliver long-lasting, economical pavement projects with the superior customer service and you expect. It's always our goal to meet or exceed expectations.

Very truly yours,
PAVEMENT ENGINEERING INC.

A handwritten signature in black ink, appearing to read 'Joe Ririe', is written over a large, stylized oval graphic.

Joseph L. Ririe, P.E.
Principal

Enclosures: One SOQ
Copies: pc: C File, M File, MP File, P/S/R



Executive Summary

CORPORATE OFFICE

San Luis Obispo

3485 Sacramento Dr. Ste. A
San Luis Obispo, CA 93401
805.781.2265
805.781.2267 Fax

BRANCH OFFICES

Petaluma

3820 Cypress Dr., Ste. 3
Petaluma, CA 94954
707.769.5330
707.769.5333 Fax

Redding

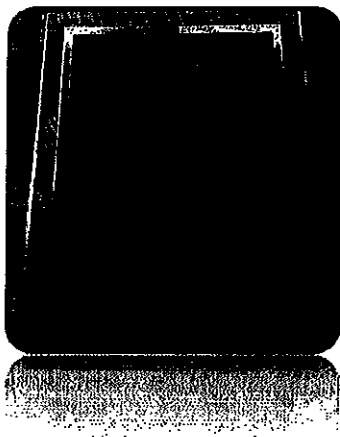
20260 Skypark Drive
Redding, CA 96002
530.224.4535
530.224.4539 Fax

OVERVIEW

Pavement Engineering Inc. (PEI) specializes in pavement. Whether it is pavement management, evaluation, design, testing, inspection, QC/QA or construction management, pavement is all we do. During any given year, we evaluate, test, design and inspect millions of square feet of pavement throughout California. With collective experience spanning three decades, our highly trained staff can quickly determine pavement condition and identify potential problems. Because our firm provides services ranging from initial pavement investigation and testing to design and inspection, we know what to look for and how to correct the problems simply and cost effectively.

PEI also understands the responsibilities of and constraints on government departments. They are charged with maintaining assets in fiscally responsible ways, maximizing services while minimizing costs and always ensuring a quality, long lasting product is delivered. That's no easy task, but it's where PEI excels. When it comes to assisting our clients, we take a very personal approach to their success. Our goal is to maximize pavement assets while minimizing costs and always ensuring a quality, long-lasting product.

PAVEMENT MANAGEMENT SYSTEMS EXPERIENCE



PEI is one of the most experienced pavement management specialists in California, with multiple dozens of successful public agency clients throughout California, many of whom have relied on our pavement management services for more than a decade. PEI began performing PMS evaluations in the late 1990s using the Bay Area Metropolitan Transportation Commission's (MTC) StreetSaver® Pavement Management System software and APWA's MicroPAVER™ software at the request of our clients.

In July 2010, Pavement Engineering Inc. was awarded "Best Pavement Management Consultant" by the Bay Area Metropolitan Transportation Commission (MTC), which covers 109 local agencies. In presenting the award, Amy Burch, MTC PTAP Project Manager said:

"PEI stands behind their work. Providing quality products for their clients is just a standard. They have raised the bar for all PTAP consultants."

Because PEI combines nearly three decades of pavement maintenance and rehabilitation projects with two decades of PMS evaluation experience using StreetSaver® and MicroPAVER™ programs, we provide the most accurate pavement distress data, timely recommendations and precise budgets that ensure the longest lasting pavement product. Having correct information is vital to its successful implementation. We work closely with agencies to ensure their goals are reflected in our work.

In addition our prior work with the City of Grover Beach, we have performed work for the following cities:

Atascadero	Hemet	Napa	San Luis Obispo
Buellton	Hercules	Novato	San Mateo
Calabasas	Lakeport	Oakdale	San Ramon
Calistoga	Larkspur	Oakley	Santa Barbara
Camarillo	Lathrop	Ojai	Santa Clarita
Carpinteria	Lincoln	Oxnard	Santa Maria
Citrus Heights	Lompoc	Pacifica	Shasta Lake
Concord	Los Altos	Palo Alto	St. Helena
Cupertino	Los Altos Hills	Paso Robles	Stockton
Danville	Los Gatos	Petaluma	Thousand Oaks
Escalon	Mill Valley	Pismo Beach	Tiburon
Fort Bragg	Millbrae	Pittsburg	Vacaville
Galt	Milpitas	Rocklin	Walnut Creek
Gilroy	Monte Sereno	Roseville	Windsor
Goleta	Monterey	Sacramento	Woodland
Guadalupe	Moorpark	San Anselmo	Yreka
Hayward	Morgan Hill	San Carlos	



Scope of Work

BACKGROUND

Currently, the City of Grover Beach maintains approximately 40 centerline miles of streets, which represented 9.6 million square feet of asphalt. The City is seeking local funding to repair all its streets over a 10 to 20-year period and wants a new pavement management plan that will meet current and future pavement maintenance and rehabilitation needs, including recommendations that consider funding shortfalls. In addition, the City would like to transition from an existing MicroPAVER™ PMS with 2008 street condition data to StreetSaver® software.

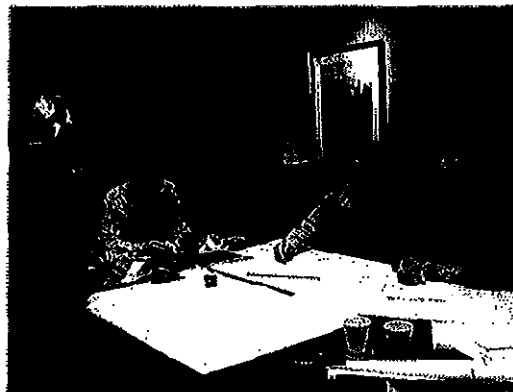
The City has outlined nine essential goals in its RFP:

- Physical evaluation of street pavement;
- Targeted sampling and testing as needed to achieve the desired project outcome;
- The ability to track the condition of pavement over time;
- Ability to establish optimum repair programs;
- Ability to allocate available funds cost effectively and identify the impact of various budget scenarios;
- Ability to recommend specific and detailed rehabilitation methods and specifications and provide detailed and accurate cost estimates for various funding scenarios;
- Ability to substitute different rehabilitation methods based on limitations associates with funding;
- Staff training in use and modification of selected PMS software.

PEI has the capabilities, staff and experience to perform all the work, which is organized and summarized below.

TASK 1

KICK-OFF MEETING AND INITIAL PLANNING



PEI's principal in charge and project manager will schedule a kick-off meeting with City staff to discuss project goals and expectations. Some items of discussion at this meeting may include the following:

- Reviewing the scope of work, schedule and budget
- Collecting existing MicroPAVER™ database information, GIS files and drawings
- Reviewing streets (including any recently annexed streets), neighborhood areas, boundaries, private streets and function classifications
- Transitioning from MicroPAVER™ to StreetSaver®

- Past pavement maintenance history and budgets
- Quality control approach
- Safety, field work access and public notifications
- PEI personnel and project contacts
- Reviewing City Council presentation goals
- Reviewing StreetSaver® training goals
- The format of deliverables.

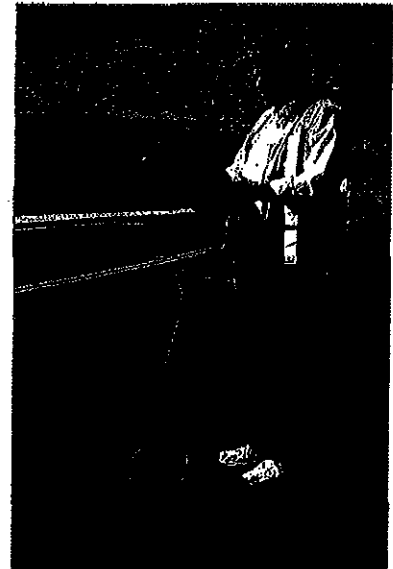
Reviewing these items prior to beginning work will help PEI develop future maintenance plans and budget scenarios that accurately reflect the City's objectives and will save monetary resources for actual pavement preservation.

Throughout the project, PEI will meet with City staff as required to coordinate and review specific project progress, schedules, budgets and other items of business to ensure the work performed meets performance goals. Our objective is to deliver a quality project on time and on budget.

Although PEI covers pavement needs for agencies throughout California, because our corporate office is in San Luis Obispo, we have several local, experienced inspectors available for this project, which will save the City considerable mobilization and travel-related costs. It also means the

TASK 2
VISUAL EVALUATION
PAVEMENT SURVEY

The success of any pavement management system depends on the accuracy of field work. The old adage "garbage in equals garbage out" is true for pavement management systems as well. PEI believes in collecting data manually rather than by windshield surveys or automated collection systems. Experience shows that windshield and automated surveys will miss critical information and that information gleaned by manual surveys is more reliable and accurate.



PEI's certified staff will manually inspect all 40 centerline miles of the City's streets for the following pavement distresses:

- Alligator cracking
- Block cracking
- Distortions
- Patches/utility cuts
- Longitudinal and transverse cracking; rutting/depressions
- Weathering

Our inspectors, who are certified by MTC for quality and consistency, attend annual training to keep abreast of changes and hone skills. That training has resulted in an accuracy rate for PEI's

inspectors of ± 5 PCI points. Industry standards accepts ± 10 PCI points.

We will assign a Pavement Condition Index (PCI) for each street segment as specified by ASTM D6433 and supported by PEI's quality assurance standards, which are designed to ensure accuracy and consistency (see PEI's QA plan summary, page 7).

As part of the field review, PEI will use a vehicle-mounted digital measuring device to measure the length of each street segment and will use a hand-held wheel to measure the width. Precise measurements are key to accurate cost projections, which are calculated based on pavement area.

We will sample locations on random test sites of $\pm 2,500$ sf. PEI will annotate the sample location on our rating sheet using footage from the beginning of each road segment. Recording locations of inspected sample areas provides the necessary information to relocate the measured area for verification. This method produces reliable, reproducible data for current and future use.

To ensure safety during the visual evaluation, PEI will provide traffic control using a flashing beacon and a vehicle-mounted magnetic sign warning of frequent stops.

PEI will provide all equipment necessary to perform the investigations. In addition, City staff can accompany PEI's staff on one of the survey days to learn more about how to recognize pavement distresses. This can prove invaluable for the City between PMS updates to evaluate contractor performance.

TASK 3
PMS MIGRATION,
DATABASE UPDATE
AND QUALITY
CONTROL

PEI can manage the transition from MicroPAVER™ to StreetSaver® seamlessly and accurately. We have performed this same transition for several existing clients and are very familiar with the process. We can guide the City through a successful transition.

After completing Task 2, PEI will enter all current survey data into StreetSaver® and develop "family curves" for each road or functional classification. As part of our services, PEI will work with City staff to verify, to the extent possible, the original construction date(s) of a street segment. Original construction dates help develop representative deterioration curves for the City.

In addition, we suggest the City review the functional classifications of streets in its system to determine if they comply with Caltrans specifications and are therefore eligible for future federal funding. We will compare each road section contained in the PMS and City's general plan with the California Road System (CRS) maps found on the Caltrans website to verify functional classification accuracy.

As part of the update, PEI will review the City's current street segmentation and how the roads are being used to make sure any analysis is consistent with the use of recommended maintenance and rehabilitation strategies. Our goal is to develop the most accurate database possible, one that will manifest in better, more precise recommendations and projections.

TASK 4
BUDGET SCENARIOS
AND DRAFT REPORT

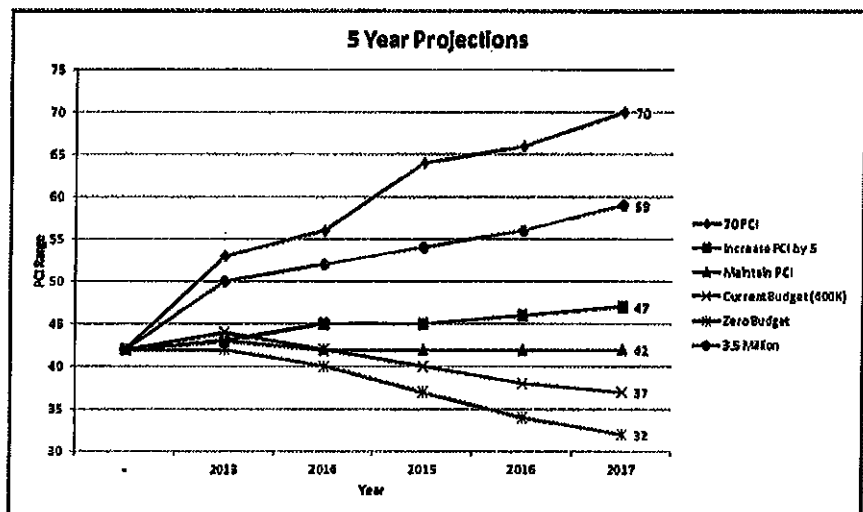
After updating the pavement management system and creating a StreetSaver® decision tree and a PCI breakpoint table, PEI will develop a 10 to 20-year maintenance and rehabilitation plan for the City's pavement assets. PEI will perform a budget analysis using several scenarios to assist the City in evaluating budget strategies and impacts. We will use StreetSaver's GIS mapping to visually illustrate the impacts.

PEI will identify and prioritize annual asphalt concrete preventative maintenance and rehabilitation treatments on a street by street or neighborhood by neighborhood basis according to a critical-point management approach. The critical-point approach incorporates pavements from all parts of the deterioration curve, not just the best nor just the worst. This approach optimizes every budget dollar by seeking to apply the right treatment at the right time. Not too soon and not too late.

We will work with City staff to develop decision trees and breakpoints and to develop treatments and costs for maintenance and rehabilitation projects that represent the City's goals and objectives. Because of our experience, we have the ability to identify and prioritize the City's annual asphalt preventative maintenance and rehabilitation in a way that will provide the City with the most favorable cost-to-benefit ratio.

Where shortfalls exist, PEI will provide recommendations for the City to employ preventative maintenance strategies that will improve and maintain its street system.

Based on our experience in creating pavement management plans for public agencies, PEI will help City staff determine the best maintenance and rehabilitation approach for the next 10 to 20 years that will maintain the City's overall PCI at a level set by the City. ***Our analysis will demonstrate what the City can expect in terms of overall pavement condition for each street system based on current and proposed future funding levels.*** Using the selected PMS software, coupled with our extensive experience, PEI will recommend the order in which neighborhood street repairs should be tackled.



TASK 5**PMS FINAL REPORT
AND CITY COUNCIL
PRESENTATION**

PEI recognizes that a PMS is a living system. While our report will document a moment in time, the data needs to be updated and linked to the GIS to be useful in the future. We will prepare and present to City staff a final report that summarizes our findings and contains the following information:

- Network condition summary;
- Network summary statistics broken down into function class: arterial, collector, residential/local and other required classifications.
- Summary of condition, recommended treatments and estimated units costs by functional class;
- At least eight budget scenarios for improving or maintaining the PCI during the next 10 to 20 years, including recommendations for potential budget shortfalls;
- A sortable desktop reference that lists roads by PCI from best to worst or alphabetically by name.

This report will serve as a benchmark that can be compared to future updates.

We will present the final report and be available to answer questions at a regularly scheduled City Council meeting. Our clients find this useful not only for reporting findings but also for educating the Council on proper pavement principles and practices.

TASK 6**STAFF TRAINING**

One of PEI's data technicians can provide training for one or more City employees on data entry and report generation using StreetSaver® software. This office training can include the following, but PEI will customize the training to the City's specific needs:

- An overview of StreetSaver®
- Familiarization with basic program logic
- Calculating the PCI
- Entering work histories
- Generating reports
- Updating cost information
- Determining budget scenarios
- Developing project street lists

At the City's option, we can provide field distress training should the City want to rate its own system.

In addition, PEI's technician will be available following initial training as needed for technical support to answer questions.

**FUTURE PMS
UPDATES**

A PMS has the potential to be a valuable tool and resource to an agency. It is both a budgeting tool and an inventory tool that provides a record of pavement conditions and work history and helps prioritize potential repairs and maintenance of selected streets. To be an effective tool, it must be maintained. The Metropolitan Transportation Commission (MTC) recommends rating arterials and collectors (major streets) every two years and local or residential streets every four years.

The StreetSaver® program is set up so that once a street is rated three times, the deterioration curve adjusts from a generic national average curve to one that reflects the deterioration of the actual street segment.

For a system the size of Grover Beach, we recommend the City rereate the entire systems every three to four years. From this data, the City can update its multi-year maintenance plan with accurate information.

**PMS QUALITY
MANAGEMENT**

Pavement Engineering's PMS quality control plan encompasses several internal checks and balances to ensure data complies with ASTM standards and is both accurate and repeatable.

In brief, our QA/QC procedures for PMS work include the following elements:

Trained and certified staff. PEI's field technicians undergo strict performance testing that includes protocols, equipment calibration and knowledge of pavement distresses. In addition, our data technicians are trained in data entry and verification procedures, field paperwork preparation, map marking and other duties related to accurate, comprehensive PMS reports. PEI's field technicians are certified by the Metropolitan Transportation Commission (MTC). We strive for a ± 5 PCI point repeatability.

Equipment verification. Prior to beginning any pavement assessment, PEI inspects, verifies and, if necessary, calibrates its measurement equipment, including vehicle-mounted devices that measure the length of each street segment and hand-held wheels that measure the width.

Data checks. PEI's PMS crew typically performs a series of data checks in the field after collecting and processing the data according to strict procedures. The PMS project manager reviews the data for accuracy and completeness before a PMS data technician specialist compiles the final database according to the agency's locations and mapping system. The project manager works with the data specialist to recheck segment lengths and look for any missing segments or data elements. The data specialist then reviews the entire database for proper formatting, missing information and errors. All these checks ensure agencies receive thorough and accurate reports for planning and budgeting.

Control, verification and random site testing. PEI reviews a minimum of 10% of the road segments previously rated according to MTC procedures to verify the accuracy of data. We then compare these reference values to the initial PCI generated by StreetSaver® software. If there are discrepancies, we will rerate the road. Once this QA/QC is finished, any variations to what the field crew found are updated in the database.



Schedule

Pavement Engineering Inc. can begin the City's PMS work after receiving a notice to proceed and after contracts have been signed. We anticipate completing the work within three months of the start day. Although this schedule includes some time for wintertime rain delays, extended inclement weather may result in additional delays.

TASK 1

KICK-OFF MEETING AND INITIAL PLANNING

One week after the notice to proceed

TASK 2

PAVEMENT SURVEY

Three weeks

TASK 3

DATA MIGRATION, DATABASE UPDATE AND QUALITY CONTROL

Two weeks. Migration from MicroPAVER™ to StreetSaver® will begin following the kick-off meeting. MTC requests a one-week turnaround time.

TASK 4

BUDGET SCENARIOS AND DRAFT REPORT

Two weeks

TASK 5

PMS FINAL REPORT AND CITY COUNCIL PRESENTATION

Three weeks (including the two-week review by the City of the draft report)

TASK 6

STAFF TRAINING

As scheduled by the City



Fee

Based on previous PMS work for the cities, counties and other agencies in California, we estimate our fees for this work at \$28,720. The fee breaks down as follows:

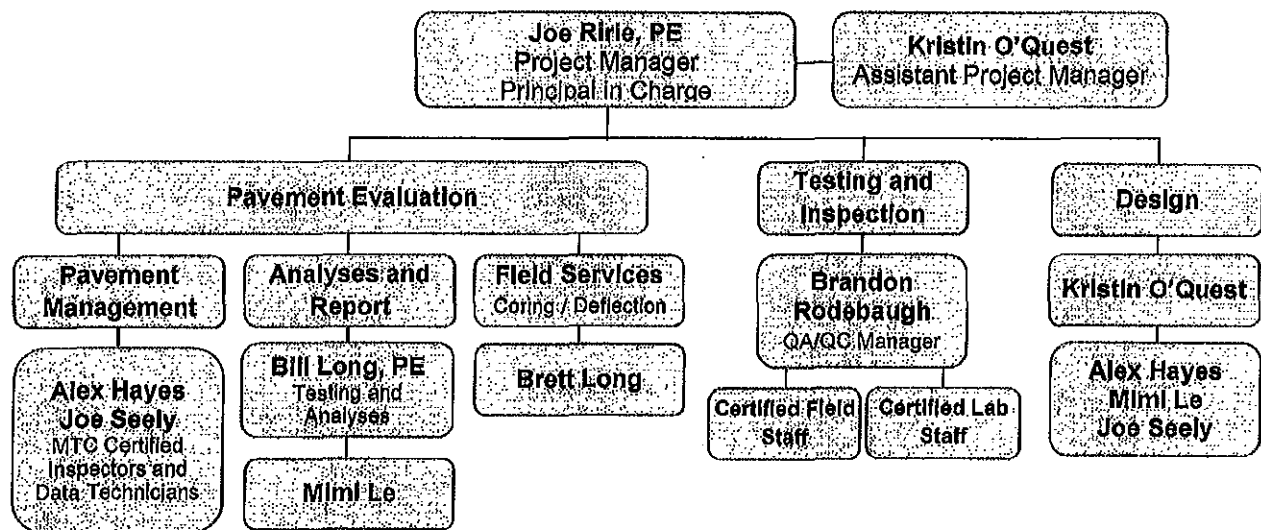
Tasks 1 – 5	\$21,560
Tasks 6:	2,160
MTC costs:	5,000

Task 1 – Initial Planning and Kick-off Meeting			
Position	Hours	Unit Rate	Total
Principal Engineer	2	\$175	\$350
Project Manager	2	135	270
Task 1 fee			\$620
Task 2 – Visual Evaluation and Pavement Survey			
Position	Hours	Unit Rate	Total
Project Manager	2	\$135	\$270
PMS Data Technician	12	80	960
PMS Inspection Team	46	160	7,360
Travel	0	50	0
Per diem	0	125	0
Task 2 fee			\$8,590
Task 3 – Data Migration, Database Update and Quality Control			
Position	Units	Unit Rate	Total
Project Manager	2	\$135	\$270
PMS Data Technician	12	80	960
PMS Quality Control	8	120	960
PMS Clerical	8	65	520
Task 3 fee			\$2,710
Task 4 – Budget Scenarios and Draft Report			
Position	Units	Unit Rate	Total
Principal Engineer	4	\$175	\$700
Project Manager	8	135	1,080
PMS Data Technician	24	80	1,920
PMS Clerical	16	65	1,040
Task 4 fee			\$4,740
Task 5 – PMS Final Report and City Council Presentation			
Position	Units	Unit Rate	Total
Principal Engineer	8	\$175	\$1,400
Project Manager	4	135	540
PMS Data Technician	24	80	1,920
PMS Clerical	16	65	1,040
Task 5 fee			\$4,900
Task 6 – Staff Training			
Position	Units	Unit Rate	Total
Principal Engineer	2	\$175	\$350
Project Manager	2	135	270
PMS Technician	16	80	1,280
PMS Clerical	4	65	260
Task 6 fee			\$2,160
Additional MTC Costs			
StreetSaver® v. 9 online edition license fee (annual cost)			\$1,500
Migration of existing MicroPaver™ database to StreetSaver®*			\$3,500
*Estimated one-time fee. A firm cost will be provided but the MTC after they receive a copy of the City's existing MicroPAVER database.			
Total Estimated Fees			\$28,720



Organization and Key Personnel

Unlike other civil engineering firms whose specialty is "general engineering," Pavement Engineering Inc. (PEI) focuses specifically on managing, maintaining and rehabilitating pavements. With 34 full-time and 18 part-time employees, PEI has the staff resources to perform all the relevant tasks outlined in the City's scope of work, including three registered engineers and three associate/assistant engineers, all of whom have technical skills that encompass a complete range of pavement engineering disciplines, and a support staff that includes Caltrans-certified lab technicians, pavement inspectors, data technicians and administrative personnel.



JOE RIRIE, P.E.
Senior Principal Engineer
Project Manager

Education
BS, Civil Engineering
California Polytechnic
State University
San Luis Obispo, CA

Registration
California Registered Civil
Engineer Number 52735

Joe has 23 years of wide-ranging experience in engineering and project management and in developing practical, cost-effective and quality pavement solutions for clients throughout California. He specializes in pavement management systems (PMS), pavement rehabilitation design and construction administration for public agencies throughout California.

As company president, Joe is responsible for PEI's reputation as California's premier pavement engineering specialists and has set the standard for delivering quality projects on time, on budget and with unparalleled customer service that builds trust and loyalty.

Joe has enhanced his pavement expertise by serving as a chairman on the Soil and Rock Sub-committee for the American Society for Testing and Materials (ASTM) and was industry co-chair for Caltrans' Pavement Preservation Task Group (PPTG).

BILL LONG, P.E.

Senior Principal Engineer
Deflection Testing & Analyses

Education

BS, Civil Engineering
Chico State University
Chico, CA

Registration

California Registered Civil
Engineer Number 52735

Bill has 28 years of engineering and construction experience in asphalt concrete pavements. His expertise focuses on the engineering and construction of asphalt concrete pavements, which includes numerous deflection studies and failure analyses, overlay designs and alternate rehabilitation designs. He is an expert in long-life pavements, CIR, warm mix asphalt, cold foam and epoxy asphalt.

Bill also has extensive experience assisting contractors in obtaining quality asphalt concrete pavements by performing thousands of quality control tests each year using Caltrans, ASTM and AASHTO standards.

KRISTIN O'QUEST

Associate Engineer and
Assistant Project Manager

Education

BS, BioResource and
Agricultural Engineering
California Polytechnic
State University
San Luis Obispo, CA

Kristin's background in project management and soils engineering is a perfect complement to PEI's team. She specializes in developing pavement management plans, rehabilitation and maintenance plans and specifications for public agencies and private entities. She assesses pavement for defects, develops rehabilitation options, measures field quantities and prepares bid packages, including plans, technical specifications and engineers' estimates. She also assists clients with construction management and inspections. In addition to project management, Kristin is experienced in preparing reports for grant money reimbursement.

BRANDON RODEBAUGH

Assistant Engineer

Education

BS, Mathematics
University of Idaho
Moscow, ID
Mam Theological Studies
Holy Cross GOSOT
Brookline, MA

As a former laboratory assessor at AMRL and as materials engineer at PEI, Brandon has consummate knowledge of pavement mixes and QA/QC standards. He has 14 years of experience in testing and designing aggregate structures, working with asphalt concrete and hot mix asphalt (HMA), developing test methods and specifications and in statistical and mathematical analyses of paving materials and is invaluable as a resource for contractors and clients alike.

ALEXANDRA HAYES

Assistant Engineer

Education

BS, Civil Engineering
Chico State University
Chico, CA

Alex provides support for PEI's senior engineers by creating and designing plans for roads, schools, parking lots and public agencies and performing detailed visual evaluations for Pavement Maintenance System updates. In addition to assisting PEI with GIS integration, Alex prepares paperwork for the field, organizes visual condition rating sheets and generates reports.

MIMI LE

Junior Assistant Engineer

Education

BS, Architectural Engineering
California Polytechnic
State University
San Luis Obispo, CA

Mimi assists PEI's principal engineers with rehabilitation and new construction projects. To determine the structural requirements for each project, she analyzes native soil resistance values, existing structural sections with deflection testing, projected traffic volumes and environmental conditions. She also estimates construction quantities and develops plans and specifications for client rehabilitation and construction projects. In addition to managing PEI's mobile field laboratories, Mimi oversees and analyzes laboratory testing of construction materials where she specializes in soil and recycled materials for numerous quality control, quality assurance and design projects.

JOE SEELY
Assistant Project Manager

Joe performs visual evaluations of pavement, provides QC ratings in the field, marks maps, prepares field paperwork and creates presentations about pavement distresses and rating techniques for various public agencies.

BRETT LONG
Engineering Field Technician

Brett performs field work for deflection testing and coring for public agencies throughout California. He assists the lead rater by preparing field paperwork, organizing visual condition rating sheets, marking maps and entering computer data. He is also experienced in laboratory testing of soil and aggregates, nuclear compaction testing on soils and asphalt and structural testing on existing pavements.



Client References

PASO ROBLES
100 Spring Street
Paso Robles, CA 93446

Mercedes "Ditas" Esperanza
Capital Project Engineer
(805) 237-3861
ditas@prcity.com

SANTA CLARITA
23920 Valencia Boulevard
Santa Clarita, CA 91355

Bill Whitlatch
Administrative Analyst
(661) 255-4933
bwhitlatch@santa-clarita.com

CONCORD
1950 Parkside Drive
Concord, CA 94519

Jeff Rogers, P.E.
Associate Civil Engineer
(925) 671-3108
Jeff.Rogers@ci.concord.ca.us

LARKSPUR
400 Magnolia Avenue
Larkspur, CA 94939

Mary Grace Houlihan
Public Works Director
(415) 927-5110
mghoulihan@cityoflarkspur.org

LATHROP
390 Towne Centre Drive
Lathrop, CA 95330

Michael King
Senior Civil Engineer
(209) 941-7454
mking@ci.lathrop.ca.us

LOMPOC
100 Civic Center Plaza
Lompoc, CA 93438

Craig Dierling, P.E.
Civil Engineering Assoc. III
(805) 875-8224
c_dierling@ci.lompoc.ca.us

CARPINTERIA
5775 Carpinteria Avenue
Carpinteria, CA 93013

Charle W. Ebeling
Public Works Director
(805) 684-5405 ext. 445
cebling@ci.carpinteria.ca.us

SAN RAMON
2401 Crow Canyon Road
San Ramon, CA 94583

Peter Phoon
Associate Engineer
(925) 973-2670
pphoon@sanramon.ca.gov

UCSB
552 University Road
Santa Barbara, CA 93106

Bob Sundberg
Service Coordinator
(805) 893-8944
Bob.Sundberg@pf.ucsb.edu