Council Meeting of
July 18, 2006

Honorable Mayor and Members
of the City Council
City Hall
Torrance, California

Members of the City Council:

SUBJECT: Recommendation to Approve a Consulting Services Agreement with Nichols Consulting Engineers, Chtd. to Update the Pavement Management System (I-47)

Expenditure: $50,800

RECOMMENDATION

The Public Works Director recommends that the City Council:

1. Approve a Consulting Services Agreement with Nichols Consulting Engineers, Chtd. in the amount of $50,800 to update the City's Pavement Management System, (I-47); and

2. Authorize the Mayor and City Clerk to execute and attest to said Agreement.

FUNDING

Funding is available from Capital Improvement Project I-47.

BACKGROUND

A Pavement Management System (PMS) is a management tool that helps engineers develop cost-effective pavement maintenance and rehabilitation strategies. A pavement management system is also required of several transportation-funding sources in order to receive highway funding. The biennial pavement survey is required by Proposition C and the Streets and Highway Code for use of highway funds. The last pavement evaluation was completed in 2004 and is required to be updated in 2006. This year's evaluation will update pavement condition surveys for collector and arterial streets in compliance with funding source requirements.

The City maintains approximately 356 miles of streets and alleys. The value of this asset is estimated at $250,000,000. The key to maintaining and rehabilitating streets is well-timed preventive maintenance measures to extend pavement life such as slurry seals, crack sealing and pavement overlays.

A PMS is a computer database containing pavement condition citywide. The PMS helps monitor citywide pavement condition such that preventive maintenance

measures can be implemented at critical points in pavement life. A PMS also identifies streets for reconstruction when preventive measures are no longer appropriate. Pavement deteriorates over time; therefore, the PMS must be updated periodically. Biennial updates are typical. Well-timed preventive measures can double pavement life and save millions of dollars yearly.

The City has maintained a computerized PMS since 1988 and has utilized it extensively to develop Capital Improvement Programs and pavement studies.

ANALYSIS

Staff utilized a Qualifications Based Selection process to select Nichols Consulting Engineers (Nichols) for a PMS update in 2002. This QBS process is consistent with Federal and State guidelines and procedures for consultant selection. Based on Nichols' successful completion of the previous PMS updates and a very reasonable fee proposal, staff recommends that they perform the current pavement evaluations.

Under the recommended Agreement, Nichols will perform evaluation of arterial and collector street pavement through detailed block-by-block visual inspection. Nichols' inspectors will quantify pavement distresses encountered and will enter the data in the PMS. Nichols' engineers will analyze the data and prepare a report on citywide pavement condition and recommendations for rehabilitation and maintenance. The fee negotiated ($50,800) is lower than fees charged during previous updates. It is also consistent with fees charged throughout the industry.

Respectfully submitted,

ROBERT J. BESTE
Public Works Director

By: John Dettle
Project Manager

CONCUR:

Robert J. Beste
Public Works Director

LeRoy J. Jackson
City Manager

Attachment: A. Agreement

CONSULTING SERVICES AGREEMENT

This CONSULTING SERVICES AGREEMENT ("Agreement") is made and entered into as of June 27, 2006 (the "Effective Date"), by and between the CITY OF TORRANCE, a municipal corporation ("CITY"), and NICHOLS CONSULTING ENGINEERS, Chtd., a Nevada Corporation ("CONSULTANT").

RECITALS:

A. CITY wishes to retain the services of an experienced and qualified CONSULTANT to update the CITY'S pavement management system for arterial and collector streets.

B. CONSULTANT represents that it is qualified to perform those services.

AGREEMENT:

1. SERVICES TO BE PERFORMED BY CONSULTANT

CONSULTANT will provide the services listed in the Scope of Services attached as Exhibit A. CONSULTANT warrants that all work and services set forth in the Scope of Services will be performed in a competent, professional and satisfactory manner.

2. TERM

Unless earlier terminated in accordance with Paragraph 4 below, this Agreement will continue in full force and effect from the Effective Date through June 30, 2007.

3. COMPENSATION

A. CONSULTANT's Fee.

For services rendered pursuant to this Agreement, CONSULTANT will be paid in accordance with the Compensation Schedule attached as Exhibit B, provided, however, that in no event will the total amount of money paid the CONSULTANT, for services initially contemplated by this Agreement, exceed the sum of $50,800.00 ("Agreement Sum"), unless otherwise first approved in writing by CITY.

B. Schedule of Payment.

Provided that the CONSULTANT is not in default under the terms of this Agreement, upon presentation of an invoice, CONSULTANT will be paid monthly the fees described in Paragraph 3.A. above, according to the Compensation Schedule. Payment will be due within 30 days after the date of the monthly invoice.

4. TERMINATION OF AGREEMENT

A. Termination by CITY for Convenience.

1. CITY may, at any time, terminate the Agreement for CITY's convenience and without cause.

2. Upon receipt of written notice from CITY of such termination for CITY's convenience, CONSULTANT will:

   a. cease operations as directed by CITY in the notice;
   b. take actions necessary, or that CITY may direct, for the protection and preservation of the work; and
   c. except for work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

3. In case of such termination for CITY's convenience, CONSULTANT will be entitled to receive payment for work executed; and costs incurred by reason of such termination, along with reasonable overhead and profit on the work not executed.

B. Termination for Cause.

1. If either party fails to perform any term, covenant or condition in this Agreement and that failure continues for 15 calendar days after the nondefaulting party gives the defaulting party written notice of the failure to perform, this Agreement may be terminated for cause; provided, however, that if during the notice period the defaulting party has promptly commenced and continues diligent efforts to remedy the default, the defaulting party will have such additional time as is reasonably necessary to remedy the default.

2. In the event this Agreement is terminated for cause by the default of the CONSULTANT, the CITY may, at the expense of the CONSULTANT and its surety, complete this Agreement or cause it to be completed. Any check or bond delivered to the CITY in connection with this Agreement, and the money payable thereon, will be forfeited to and remain the property of the CITY. All moneys due the CONSULTANT under the terms of this Agreement will be retained by the CITY, but the retention will not release the CONSULTANT and its surety from liability for the default. Under these circumstances, however, the CONSULTANT and its surety will be credited with the amount of money retained, toward any amount by which the cost of completion exceeds the Agreement Sum and any amount authorized for extra services.

3. Termination for cause will not affect or terminate any of the rights of the CITY as against the CONSULTANT or its surety then existing, or which may thereafter accrue because of the default; this provision is in addition to all other rights and remedies available to the CITY under law.

C. Termination for Breach of Law.

In the event the CONSULTANT or any of its officers, directors, shareholders, employees, agents, subsidiaries or affiliates is convicted (i) of a criminal offense as an incident to obtaining or attempting to obtain a public or private contract or subcontract, or in the performance of a contract or subcontract; (ii) under state or federal statutes of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or any other offense indicating a lack of business integrity or business honesty which currently, seriously, and directly affects responsibility as a public consultant or contractor; (iii) under state or federal antitrust statutes arising out of the submission of bids or proposals; or (iv) of violation of Paragraph 19 of this Agreement; or for any other cause the CITY determines to be so serious and compelling as to affect CONSULTANT's responsibility as a public consultant or contractor, including but not limited to, debarment by another governmental agency, then the CITY reserves the unilateral right to terminate this Agreement or to impose such other sanctions (which may include financial sanctions, temporary suspensions or any other condition deemed appropriate short of termination) as it deems proper. The CITY will not take action until CONSULTANT has been given notice and an opportunity to present evidence in mitigation.

5. FORCE MAJEURE

If any party fails to perform its obligations because of strikes, lockouts, labor disputes, embargoes, acts of God, inability to obtain labor or materials or reasonable substitutes for labor or materials, governmental restrictions, governmental regulations, governmental control, judicial orders, enemy or hostile governmental action, civil commotion, fire or other casualty, or other causes beyond the reasonable control of the party obligated to perform, then that party's performance shall be excused for a period equal to the period of such cause for failure to perform.

6. RETENTION OF FUNDS

CONSULTANT authorizes CITY to deduct from any amount payable to CONSULTANT (whether or not arising out of this Agreement) any amounts the payment of which may be in dispute or that are necessary to compensate CITY for any losses, costs, liabilities, or damages suffered by CITY, and all amounts for which CITY may be liable to third parties, by reason of CONSULTANT's negligent acts or omissions or willful misconduct in performing or failing to perform CONSULTANT's obligations under this Agreement. In the event that any claim is made by a third party, the amount or validity of which is disputed by CONSULTANT, or any indebtedness exists that appears to be the basis for a claim of lien, CITY may withhold from any payment due, without liability for interest because of the withholding, an amount sufficient to cover the claim. The failure of CITY to exercise the right to deduct or to withhold will not, however, affect the obligations of CONSULTANT to insure, indemnify, and protect CITY as elsewhere provided in this Agreement.

7. **CITY REPRESENTATIVE**

Robert J. Beste is designated as the "City Representative," authorized to act in its behalf with respect to the work and services specified in this Agreement and to make all decisions in connection with this Agreement. Whenever approval, directions, or other actions are required by CITY under this Agreement, those actions will be taken by the City Representative, unless otherwise stated. The City Manager has the right to designate another City Representative at any time, by providing notice to CONSULTANT.

8. **CONSULTANT REPRESENTATIVE(S)**

The following principal(s) of CONSULTANT are designated as being the principal(s) and representative(s) of CONSULTANT authorized to act in its behalf with respect to the work specified in this Agreement and make all decisions in connection with this Agreement:

Margot Yapp, P.E., Vice President
Larry Perlin, Division Manager

9. **INDEPENDENT CONTRACTOR**

The CONSULTANT is, and at all times will remain as to CITY, a wholly independent contractor. Neither CITY nor any of its agents will have control over the conduct of the CONSULTANT or any of the CONSULTANT's employees, except as otherwise set forth in this Agreement. The CONSULTANT may not, at any time or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of CITY.

10. **BUSINESS LICENSE**

The CONSULTANT must obtain a City business license prior to the start of work under this Agreement, unless CONSULTANT is qualified for an exemption.

11. **OTHER LICENSES AND PERMITS**

CONSULTANT warrants that it has all professional, contracting and other permits and licenses required to undertake the work contemplated by this Agreement.

12. **FAMILIARITY WITH WORK**

By executing this Agreement, CONSULTANT warrants that CONSULTANT (a) has thoroughly investigated and considered the scope of services to be performed, (b) has carefully considered how the services should be performed, and (c) fully understands the facilities, difficulties and restrictions attending performance of the services under this Agreement. If the services involve work upon any site, CONSULTANT warrants that CONSULTANT has or will investigate the site and is or will be fully acquainted with the conditions there existing, prior to commencement of services set forth in this Agreement. Should CONSULTANT discover any latent or unknown conditions that will materially affect the performance of the services set forth in this Agreement, CONSULTANT must immediately inform CITY of that fact and may not proceed except at CONSULTANT's risk until written instructions are received from CITY.

13. CARE OF WORK

CONSULTANT must adopt reasonable methods during the term of the Agreement to furnish continuous protection to the work, and the equipment, materials, papers, documents, plans, studies and other components to prevent losses or damages, and will be responsible for all damages, to persons or property, until acceptance of the work by CITY, except those losses or damages as may be caused by CITY's own negligence.

14. CONSULTANT'S ACCOUNTING RECORDS; OTHER PROJECT RECORDS

Records of the CONSULTANT's time pertaining to the project, and records of accounts between CITY and the CONSULTANT, will be kept on a generally recognized accounting basis. CONSULTANT will also maintain all other records, including without limitation specifications, drawings, progress reports and the like, relating to the project. All records will be available to CITY during normal working hours. CONSULTANT will maintain these records for three years after final payment.

15. INDEMNIFICATION

CONSULTANT will indemnify, defend, and hold harmless CITY, the City Council, each member thereof, present and future, its officers, agents and employees from and against any and all liability, expenses, including defense costs and legal fees, and claims for damages whatsoever, including, but not limited to, those arising from breach of contract, bodily injury, death, personal injury, property damage, loss of use, or property loss, which is the result of the negligent acts, errors, or omissions or other wrongful conduct of CONSULTANT, CONSULTANT's officers, agents or employees. The obligation to indemnify, defend and hold harmless includes, but is not limited to, any liability or expense, including defense costs and legal fees, arising from the negligent acts or omissions, or willful misconduct of CONSULTANT, its officers, employees, agents, subcontractors or vendors. It is further agreed, CONSULTANT's obligations to indemnify, defend and hold harmless will apply even in the event of concurrent negligence on the part of CITY, the City Council, each member thereof, present and future, or its officers, agents and employees, except for liability resulting from the active negligence or willful misconduct of CITY, its officers, employees or agents. In the event of any dispute between CONSULTANT and CITY, as to whether liability arises from the active negligent of the CITY or its officers, employees, agents, subcontractors or vendors, CONSULTANT will be obligated to pay for CITY's defense until such time as a final judgment has been entered adjudicating the CITY as actively negligent. CONSULTANT will be entitled in the event of such a determination to any reimbursement of defense costs including but not limited to attorney's fees, expert fees and costs of litigation.

16. NON-LIABILITY OF CITY OFFICERS AND EMPLOYEES

No officer or employee of CITY will be personally liable to CONSULTANT, in the event of any default or breach by the CITY or for any amount that may become due to CONSULTANT.

17. INSURANCE

A. CONSULTANT must maintain at its sole expense the following insurance, which will be full coverage not subject to self insurance provisions:

1. Automobile Liability, including owned, non-owned and hired vehicles, with at least the following limits of liability:

   a. Primary Bodily Injury with limits of at least $500,000 per person, $1,000,000 per occurrence; and

   b. Primary Property Damage of at least $250,000 per occurrence; or

   c. Combined single limits of $1,000,000 per occurrence.

2. General Liability including coverage for premises, products and completed operations, independent contractors/vendors, personal injury and contractual obligations with combined single limits of coverage of at least $1,000,000 per occurrence.

3. Professional liability insurance with limits of at least $1,000,000 per occurrence.

4. Workers' Compensation with limits as required by the State of California and Employers Liability with limits of at least $1,000,000.

B. The insurance provided by CONSULTANT will be primary and non-contributory

C. CITY, the City Council and each member thereof, members of boards and commissions, every officer, agent, official, employee and volunteer must be named as additional insured under the automobile and general liability policies.

D. CONSULTANT must provide certificates of insurance and/or endorsements to the City Clerk of the City of Torrance before the commencement of work.

E. Each insurance policy required by this Paragraph must contain a provision that no termination, cancellation or change of coverage can be made without thirty days notice to CITY.

18. SUFFICIENCY OF INSURERS AND SURETIES

Insurance or bonds required by this Agreement will be satisfactory only if issued by companies admitted to do business in California, rated "B+" or better in the most recent edition of Best's Key Rating Guide, and only if they are of a financial category Class VII or better, unless these requirements are waived by the Risk Manager of CITY ("Risk Manager") due to unique circumstances. In the event the Risk Manager determines that the work or services to be performed under this Agreement creates an increased or decreased risk of loss to CITY, the CONSULTANT agrees that the minimum limits of any insurance policies or performance bonds required by this Agreement may be changed

accordingly upon receipt of written notice from the Risk Manager; provided that CONSULTANT will have the right to appeal a determination of increased coverage by the Risk Manager to the City Council of CITY within 10 days of receipt of notice from the Risk Manager.

19. CONFLICT OF INTEREST

A. No officer or employee of the CITY may have any financial interest, direct or indirect, in this Agreement, nor may any officer or employee participate in any decision relating to the Agreement that effects the officer or employee's financial interest or the financial interest of any corporation, partnership or association in which the officer or employee is, directly or indirectly interested, in violation of any law, rule or regulation.

B. No person may offer, give, or agree to give any officer or employee or former officer or employee, nor may any officer or employee solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any way pertaining to any program requirement, contract or subcontract, or to any solicitation or proposal.

20. NOTICE

A. All notices, requests, demands, or other communications under this Agreement will be in writing. Notice will be sufficiently given for all purposes as follows:

1. Personal delivery. When personally delivered to the recipient: notice is effective on delivery.

2. First Class mail. When mailed first class to the last address of the recipient known to the party giving notice: notice is effective three mail delivery days after deposit in an United States Postal Service office or mailbox.

3. Certified mail. When mailed certified mail, return receipt requested: notice is effective on receipt, if delivery is confirmed by a return receipt.

4. Overnight delivery. When delivered by an overnight delivery service, charges prepaid or charged to the sender's account: notice is effective on delivery, if delivery is confirmed by the delivery service.

5. Facsimile transmission. When sent by fax to the last fax number of the recipient known to the party giving notice: notice is effective on receipt. Any notice given by fax will be deemed received on the next business day if it is received after 5:00 p.m. (recipient's time) or on a non-business day.

6. Addresses for purpose of giving notice are as follows:

CONSULTANT:	Margot Yapp, P.E. Nichols Consulting Engineers, Chtd. 501 Canal Boulevard, Suite C Richmond, CA 94804 Fax: (510) 215-2898
CITY:	City Clerk City of Torrance 3031 Torrance Boulevard Torrance, CA 90509-2970 Fax: (310) 618-2931

B. Any correctly addressed notice that is refused, unclaimed, or undeliverable because of an act or omission of the party to be notified, will be deemed effective as of the first date the notice was refused, unclaimed or deemed undeliverable by the postal authorities, messenger or overnight delivery service.

C. Either party may change its address or fax number by giving the other party notice of the change in any manner permitted by this Agreement.

21. PROHIBITION AGAINST ASSIGNMENT AND SUBCONTRACTING

This Agreement and all exhibits are binding on the heirs, successors, and assigns of the parties. The Agreement may not be assigned or subcontracted by either CITY or CONSULTANT without the prior written consent of the other.

22. INTEGRATION; AMENDMENT

This Agreement represents the entire understanding of CITY and CONSULTANT as to those matters contained in it. No prior oral or written understanding will be of any force or effect with respect to the terms of this Agreement. The Agreement may not be modified or altered except in writing signed by both parties.

23. INTERPRETATION

The terms of this Agreement should be construed in accordance with the meaning of the language used and should not be construed for or against either party by reason of the authorship of this Agreement or any other rule of construction that might otherwise apply.

24. SEVERABILITY

If any part of this Agreement is found to be in conflict with applicable laws, that part will be inoperative, null and void insofar as it is in conflict with any applicable laws, but the remainder of the Agreement will remain in full force and effect.

25. TIME OF ESSENCE

Time is of the essence in the performance of this Agreement.

26. GOVERNING LAW; JURISDICTION

This Agreement will be administered and interpreted under the laws of the State of California. Jurisdiction of any litigation arising from the Agreement will be in Los Angeles County, California.

27. COMPLIANCE WITH STATUTES AND REGULATIONS

CONSULTANT will be knowledgeable of and will comply with all applicable federal, state, county and city statutes, rules, regulations, ordinances and orders.

28. WAIVER OF BREACH

No delay or omission in the exercise of any right or remedy by a nondefaulting party on any default will impair the right or remedy or be construed as a waiver. A party's consent or approval of any act by the other party requiring the party's consent or approval will not be deemed to waive or render unnecessary the other party's consent to or approval of any subsequent act. Any waiver by either party of any default must be in writing and will not be a waiver of any other default concerning the same or any other provision of this Agreement.

29. ATTORNEY'S FEES

Except as provided for in Paragraph 15, in any dispute, litigation, arbitration, or other proceeding by which one party either seeks to enforce its rights under this Agreement (whether in contract, tort or both) or seeks a declaration of any rights or obligations under this Agreement, the prevailing party will be awarded reasonable attorney's fees, together with any costs and expenses, to resolve the dispute and to enforce any judgment.

30. EXHIBITS

All exhibits identified in this Agreement are incorporated into the Agreement by this reference.

31. CONSULTANT'S AUTHORITY TO EXECUTE

The person(s) executing this Agreement on behalf of the CONSULTANT warrant that (i) the CONSULTANT is duly organized and existing; (ii) they are duly authorized to execute this Agreement on behalf of the CONSULTANT; (iii) by so executing this Agreement, the CONSULTANT is formally bound to the provisions of this Agreement;

and (iv) the entering into this Agreement does not violate any provision of any other Agreement to which the CONSULTANT is bound.

CITY OF TORRANCE
a Municipal Corporation

_____
Frank Scotto, Mayor

ATTEST:

_____
Sue Herbers
City Clerk

APPROVED AS TO FORM:
JOHN L. FELLOWS III
City Attorney

By:_____

Nichols Consulting Engineers, Chtd.
A Nevada Corporation

By:_____
Margot Yapp
Vice President

Attachments:	Exhibit A	Scope of Services
	Exhibit B	Compensation Schedule

Revised: 1/30/01

EXHIBIT A

SCOPE OF SERVICES

See attached

Revised: May 23, 2006

City of Torrance
Scope of Work
2006 Pavement Management Update

PROJECT UNDERSTANDING

Based on our discussions with the City, it is Nichols Consulting Engineers, Chtd. (NCE)'s understanding that the City of Torrance is seeking professional consulting services to update the City's pavement management system. The City's current system was last updated in 2003-2004 and the City is currently using the Metropolitan Transportation Commission's Pavement Management Software (version 7.5).

The scope of work includes data collection on all existing arterial and collector streets, performing budget analyses and preparing a budget scenarios and reports for the City. The City's arterial and collector street network consists of approximately 95.5 centerline miles, split up into approximately:

- Arterials (47.5 miles or 355 sections)
- Urban minor arterials (19.2 miles or 159 sections)
- Collectors (28.8 miles or 216 sections)

This results in approximately 921 sample units.

In addition, we have assumed that no new arterials or collectors have been added to the pavement network.

SCOPE OF WORK

Based on the above project understanding, the following is a description of the approach that NCE will pursue for this project.

TASK A – KICKOFF MEETING

NCE will first meet with City staff to kickoff the project by reviewing the technical approach and any administrative matters that may be necessary. At a minimum, items to be discussed will include the following:

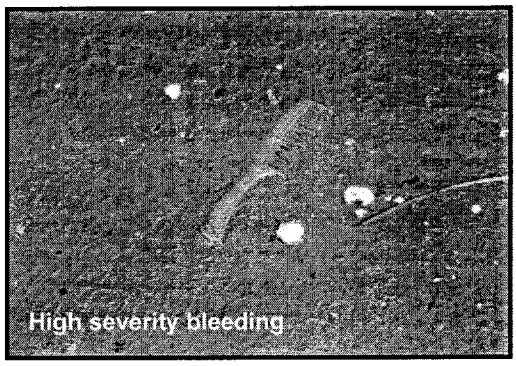
- Scope of work, project schedule, budget and invoicing requirements
- Points of contacts
- Scheduling and access requirements for field work
- Public safety concerns, requirements and procedures
- Quality Control activities
- Maintenance and rehabilitation (M&R) practices, records and costs
- Maintenance budgets
- Available city maps and other relevant data
- Other issues as appropriate

Revised: May 23, 2006

City of Torrance
Scope of Work
2006 Pavement Management Update

TASK B – CONDITION SURVEYS & PCI CALCULATIONS

NCE will perform pavement condition surveys on the City's pavement network. A total of 95.5 miles will be surveyed (approximately 921 sample units). The condition surveys will be performed in accordance with the established standards as identified in Pavement Distress Identification Manuals published by the Metropolitan Transportation Commission. A minimum of one sample unit per section will be inspected. Approximately one sample unit will be inspected for each 1,000 lineal feet of roadway.


High severity bleeding

Any variation from the established procedures will be to accommodate unique local conditions e.g. chip seals over Portland cement concrete pavements, bleeding (see photo), edge cracking, etc. These conditions typically exhibit unique distresses that may not be reflected in any distress manual, so special exceptions will need to be made. Any areas which are not typical of the entire section will be inspected and recorded as a special sample unit.

NCE will be responsible for providing all equipment necessary for performance of this task. Should City personnel wish to observe NCE's crews during the surveys, we will be more than happy to accommodate the City. Individual city staff may also accompany NCE's field crews for up to 2 days each – to gain hands-on training ***at no additional cost*** to the City. We have found that this is the most effective training method for agency staff, as they become part of the data collection crew, rather than just an observer.

Data Entry and PCI Calculations

The distress data will be recorded in the field using a PDA or handheld device (Data Wrangler) specifically developed by NCE for this task (see example below). This allows us to save considerable time in data entry, as well as minimizes the risk of errors, and therefore results in cost savings to the City. We will be responsible for providing all equipment necessary for performance of this task. The data will receive random quality control checks to ensure that it is complete and accurate. The City's staff will also be trained in the use of the Data Wrangler when they accompany our field crews.

All information collected from the condition surveys will then be downloaded into the PMS database. This task will be performed at NCE's office in order to provide Quality Control of all data entered into the system. NCE will then perform the pavement condition index (PCI) calculations using the PMS software, and correct any errors found.

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City of Torrance
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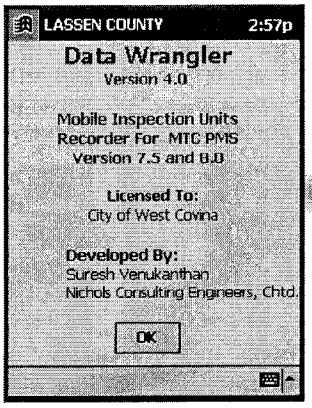
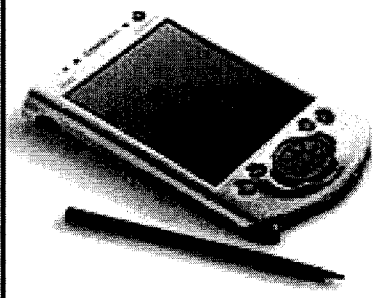
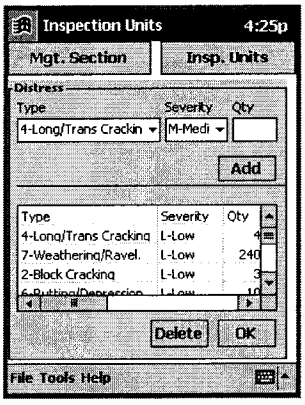
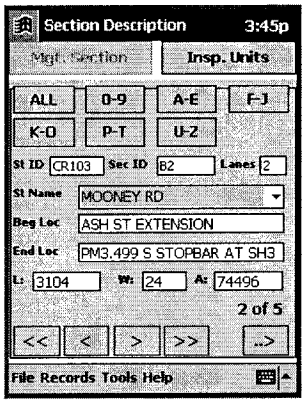
NCE DATA WRANGLER

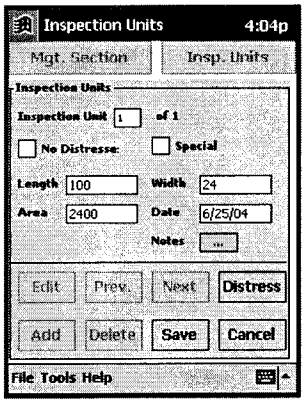




- Mobile Handheld Device
- Records Inspection Units
- Collects Data in Less Time
- Eliminates Manual Data Entry
- Eliminates Use of Paper Forms
- Improves Quality Control
- Capable of Full and/or Partial Data Extraction







Quality Control Checks

Quality Control (QC) checks are critical on a project such as this when such a large amount of data needs to be collected and processed. As part of NCE's goal to provide a superior quality product for our clients, we incorporate a QC component into all of our projects. For this project, we have proposed the inclusion of a QC Manager, **Mr. Larry Perlin**, who will have the following project responsibilities:

- Calibration of all data collection activities
- Review of field activities, including spot checks on the field crews
- Reviewing field procedures and making changes as needed
- Comparing the field data collected with on-site conditions
- Review of all data entry functions, including random spot checks
- Review of reports generated and analyses performed to ensure a quality product

Revised: May 23, 2006

City of Torrance
Scope of Work
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TASK C– MAINTENANCE & REHABILITATION HISTORY

NCE will enter all maintenance and rehabilitation historical treatments since the last update in 2003 if this has not yet been performed. We will work with the City to obtain these historical records in the following format:

- Street Name
- Begin and ending limits of work
- Type of treatment
- Date of treatment
- Cost of treatment (optional)

Populating the PMS database with recent historical data is extremely useful for determining future treatments and predicting performance of the various pavement sections. This includes overlays, reconstructions and any surface seals. Therefore, we highly recommend collecting this information and entering it into the new PMS database. A total of 16 hours has been allocated for this task.

TASK D – UPGRADE TO STREETSAVER™ (Optional)

This task has been deleted.

TASK E – BUDGETARY ANALYSIS & FINAL REPORTS

Upon completion of the data collection activities, NCE will review maintenance and rehabilitation (M&R) strategies with City staff. This will include the recommendation and selection of appropriate treatments such as chip seals or overlays, and the determination of treatment unit costs. This will also be an appropriate time to review the use of new treatments or materials, such as rubberized asphalt, rubberized chip seals, or slurry seals.

Development of the M&R Decision Trees is a critical step in any PMS implementation as it has a direct and significant impact on the final work plan that is developed, as well as the budgeting consequences. NCE's experience in pavement engineering and design, as well as local conditions, allows our staff to be able to provide the City with solutions that are practical and workable. The M&R alternatives are used to determine effective treatments for each street section based upon criteria such as condition, pavement type, and functional class. Once these M&R alternatives are defined, a treatment unit cost will be determined for each alternative. These alternatives and costs will then be entered into the PMS database for budgetary analyses. All modifications will be noted and summarized in a report to the City.

Upon completion of the previous tasks, NCE will perform a **budget needs** analysis using an analysis period to be determined by the City, typically 5 to 30 years. This will identify M&R requirements for each road section and determines the total maintenance and rehabilitation requirements over the entire analysis period. The Needs Analysis identifies road sections that need treatment and applies the M&R decision trees to each section. The costs are then summed for the entire period. This forms the basis for performing Budget Scenario evaluations, which optimize the street sections for repair under constrained budgets.

Revised: May 23, 2006

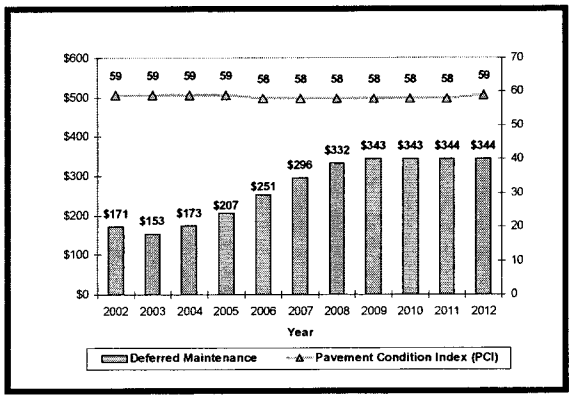
City of Torrance
Scope of Work
2006 Pavement Management Update

> In simplistic terms, the Budget Needs analysis answers the questions: "If I have unlimited funding for street maintenance and repair, which streets should I fix? When should I fix them? What treatments should I apply? How much will it cost?"

The **Budget Scenarios** evaluation uses a weighted effectiveness rating to prioritize sections for repair under constrained, realistic, budgetary assumptions. The effectiveness rating is defined as the area under a pavement performance curve. The effectiveness rating is weighted to place a higher priority on certain streets, such as arterials and collectors.

> Simply put, this module answers the question: "If I only have limited funds for street maintenance and repair, which streets have the highest priority for repairs, when should I perform the repairs, and how much will it cost?"

Multiple funding scenarios may be performed to answer "what-if" questions (the real "meat" of any PMS). NCE will perform up to six budget scenario runs based on input from the City. Typical funding scenarios include:



- Existing funding levels
- Existing funding levels increased (or decreased) by 10%, 20% etc.
- Budgets that accommodate spikes in funding from STP, for example
- Funding levels required to maintain (or increase) the PCI over time
- Funding levels to maintain (or decrease) backlog over time

A sample graph from similar budgetary analyses is shown here.

We will also provide recommendations concerning funding scenarios and selected road sections for rehabilitation. Finally, based on these results and input from City staff, NCE will prepare a multi-year work plan that includes recommended repairs on selected streets as well as corresponding funding required.

NCE will then prepare a final report that summarizes the results of the surveys and analyses. Specifically, the final report will contain:

- Inventory reports for the entire PMS database
- Condition (PCI) reports
- Maintenance and rehabilitation history reports
- Maintenance and rehabilitation decision trees
- Budget Needs reports
- Budget Scenarios reports
- Multi-year work plan (up to five years)

Finally, NCE will prepare an Executive Summary report for the City. This will be a 10-15 page report that will summarize the overall condition of the City's pavement network, the maintenance & rehabilitation strategies used by the City, the results of budgetary analyses, different budget

scenarios and recommendations on the recommended scenario with selected road sections for maintenance and rehabilitation.

As the deliverables for this task, NCE will provide:

- Final Report
- Executive Summary
- Updated (and migrated) PMS database on CD

TASK F – TECHNICAL SUPPORT

NCE will also provide follow-up on-call technical support on an as-needed, time and materials basis. This can include hotline/phone support, database troubleshooting, preparation of custom reports, ad-hoc field inspections etc. Included in our Fee Proposal is an allowance of 40 hours for such technical support for one year after completion of the project.

TASK G – COUNCIL PRESENTATION (Optional)

This task has been deleted.

EXHIBIT B

COMPENSATION SCHEDULE

See attached

COST ESTIMATE

The estimated cost to perform the above tasks is summarized in the table below:

Task Description	Project Manager	QC Manager	Snr/Project Engineer	Snr. Tech	Clerical	Direct Costs	Total Cost
A. Kickoff Meeting	4		4			$ 520	$ 1,800
B. Pavement Condition Surveys	8	8	16	272		$ 9,420	$ 32,900
C. M&R History	4		16			$ 140	$ 2,600
D. Upgrade to StreetSaver™ (optional)	DELETED						
E. Budgetary Analyses & Reports	8		50		8	$ 510	$ 7,800
F. Technical Support	10		30			$ -	$ 5,700
G. Council Presentation (optional)	DELETED						
Totals	**34**	**8**	**116**	**272**	**8**		**$ 50,800**

Assumptions

Task B includes field training for City staff at no additional cost.

Task C assumes 16 hours for updating the M&R history.

NICHOLS CONSULTING ENGINEERS, Chtd.
SCHEDULE OF CHARGES - 2006

PROFESSIONAL SERVICES

Consulting Vice President	$195/hour
Principal	$180/hour
Associate	$150/hour
Senior	$125/hour
Project	$105/hour
Staff	$90/hour

TECHNICAL SERVICES

Senior Designer	$90/hour
Senior Technician/Inspector	$80/hour
CAD Draftsman	$80/hour
Project Administrator	$70/hour
Engineering Technician	$65/hour
Field Technician	$70/hour
Technical Word Processing	$60/hour
Clerical	$60/hour

CONTRACT LABOR

From time to time, NCE retains outside Professional and technical labor on a temporary basis to meet peak workload demands. Such contract labor will be charged at regular Schedule charges.

LITIGATION SUPPORT

Expert testimony in depositions, hearings, mediations, and trials will be charged at 300% of the above rates.

EQUIPMENT

CADD/Microcomputer	$15/hour
Plotter Usage	(separate fee schedule)
Truck	$60/day
Automobile	$0.485/mile
Falling Weight Deflectometer Testing	(separate fee schedule)
Asphalt Coring	(separate fee schedule)
Environmental Equipment	(separate fee schedule)

OUTSIDE SERVICES

Rental of equipment not ordinarily furnished by NCE and all other costs such as special printing, photographic work, travel by common carrier, subsistence, subcontractors, etc. ..... cost+15%

COMMUNICATION/ REPRODUCTION

In-house costs for long-distance telephone, faxing, postage, printing and copying ..... project labor charges x 5%

TERMS

Billings are payable upon presentation and are past due 30 days from invoice date. A finance charge of 1.5% per month, or the maximum amount allowable by law, will be charged on past-due accounts. NCE makes no warranty, either expressed or implied, as to its findings, recommendations, specifications, or professional advice except that they are prepared and issued in accordance with generally accepted professional practice.