RESOLUTION No. 21-379

OF THE BOARD OF SUPERVISORS OF THE COUNTY OF NEVADA

AWARD OF TASK ORDER #1 TO NICHOLS CONSULTING ENGINEERS, CHTD., FOR $52,192.02 TO COMPLETE A PAVEMENT CONDITION INDEX SURVEY - DISTRICTS I, II, III, IV, V

WHEREAS, on April 13, 2021, the Nevada County Board of Supervisors adopted Resolution 21-103, awarding a contract with Nichols Consulting Engineers, Chtd., (NCE), for a $250,000 not-to-exceed on-call design services contract for the period of April 13, 2021, to April 13, 2026; and

WHEREAS, On June 23, 2021, the County issued an RFP to complete a Pavement Condition Index (PCI) Survey; and

WHEREAS, the County received a mini-proposal from NCE to complete the PCI Survey; and

WHEREAS, a task order must be issued to approve the desired design services per the Caltrans Local Assistance Procedures Manual; and

WHEREAS, Resolution 21-103 stated that individual project scope of work and cost of services would be negotiated based on Caltrans approved rates and that all project task orders greater than $50,000 would be brought to the County of Nevada Board of Supervisors to award within the global $250,000 not to exceed contract; and

WHEREAS, this project will be Task Order #1 from the not to exceed on-call contract awarded with Resolution 21-103; and

WHEREAS, Task Order #1 has been negotiated in the amount of $52,192.02 with NCE and the remaining balance on their on-call contract will be $250,000 - $52,192.02 = $197,807.98; and

WHEREAS, work is scheduled to begin in August 2021 be completed by November 2021; and

WHEREAS, sufficient budget is available in 1114-30104-702-1000 / 521130 to support this award.

NOW, THEREFORE, BE IT HEREBY RESOLVED that the Nevada County Board of Supervisors:

1. Awards Task Order #1 to NCE in an amount of $52,192.02 to complete the PCI Survey as needed and approved per the project scope of work. The contract term for this Task Order #1 shall be August 2021 – November 2021.

2. Authorizes the Public Works Director, or their designee, to execute on behalf of the County of Nevada Task Order #1 between Nevada County and NCE.

PASSED AND ADOPTED by the Board of Supervisors of the County of Nevada at a regular meeting of said Board, held on the 24th day of August, 2021, by the following vote of said Board:

Ayes: Supervisors Heidi Hall, Edward Scofield, Dan Miller, Susan K. Hoek and Hardy Bullock.

Noes: None.

Absent: None.

Abstain: None.

ATTEST:

JULIE PATTERSON HUNTER
Clerk of the Board of Supervisors

By: _____

_____
Dan Miller, Chair

8/24/2021 cc: DPW*
AC*

COUNTY OF NEVADA
COMMUNITY DEVELOPMENT AGENCY
DEPARTMENT OF PUBLIC WORKS
950 MAIDU AVENUE, P.O. Box 599002
NEVADA CITY, CA 95959-7902
(530) 265-1411 FAX (530) 265-9849
http://www.mynevadacounty.com

CONTRACT: **On-Call Design Services**

TASK ORDER		
BY COUNTY	REQUEST DATE: **August 24, 2021**	**COUNTY TASK ORDER #1**
	PROJECT TITLE: **Award of Task Order #1 to NCE to Complete a Pavement Condition Index (PCI) Survey**	
	Consultant.: **NCE**	FAX:
	REQUESTED BY: **Zachary Lake**	FOR DEPARTMENT: **Public Works**
	REQUEST: **Design Services**	REQUESTED DELIVERY DATE: **August 2021**
	PROJECT LOCATION: **Various Locations**	
	DESCRIPTION: **Consultant shall complete a PCI survey on approximately 275 miles of**	
	paved County roads and update the County's overall StreetSaver data.	
	See Attached:	
	PCI Survey – Mini RFP	
	Proposal from NCE dated July 22, 2021	
	Task Order #1 – Scope of Work	
COMPLETED BY CONSULTANT	ESTIMATED DELIVERY: **August 2021**	ESTIMATED COST: **$52,192.02**
	COMMENTS:	
COUNTY	AUTHORIZATION TO PROCEED:	
	By: Patrick Perkins P.E. Principal Civil Engineer	DATE: 8/31/21

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Mali LaGoe
Acting Community Development Agency Director

Trisha Tillotson
Director of Public Works

TO: Lee Taubeneck, Nichols Consulting Engineers

FROM: Zachary Lake, Senior Civil Engineer

DATE: June 23, 2021

SUBJECT: Pavement Condition Index Survey – Mini-RFP

Your company has an On-Call Professional Services Contract with Nevada County to perform a wide range of project activities related to design professional engineering services. Nevada County has implemented a two-step process in accordance with Chapter 10 of the Local Assistance Procedures Manual. This Mini-RFP is the second part of that two-step process. Below are the specifics pertaining to this project.

The County will award a single engineering design contract that will include engineering services related to updating the County's Pavement Condition Index (PCI).

PROJECT DESCRIPTION: Work shall consist of reviewing approximately 275 miles of paved County roads and providing a Pavement Condition Index (PCI) number to each road segment, as listed in the County Maintained Mileage list (see attached), and according to the guidelines of the StreetSaver Pavement Management Software. Consultant will load data into the County StreetSaver Program and update the County's overall StreetSaver data.

Nevada County has approximately 407 miles of County-maintained paved roadways. County staff has recently rated 132 miles of roadways, which will not need to be rerated. However, a small sample of the roads that have already been rated (approximately 5 – 10 random road segments) shall be re-rated by the consultant to compare their survey results with those obtained by County staff.

PROJECT DOCUMENTS: The list of roads that needs to be rated is included with this Mini-RFP. Access to the County's StreetSaver project will be granted to the successful bidder.

CONTRACT TIMELINE: Approx. August 2021– November 2021

LOCAL AGENCY PROJECT MANAGER: Zachary Lake, Senior Civil Engineer

DBE % REQUIRED: CE contract goal is 11% over the duration of the contract

ITEMS SPECIFIC TO THIS PROJECT:

Cost effective and efficient use of staffing should be addressed in the proposal.

INSTRUCTIONS TO CONSULTANT: The Mini-RFP shall include:

1. Work plan that covers the project from August 2021– November 2021, or project closeout
2. Project understanding
3. Scope of work

4. Experience with similar projects
5. Schedule showing proposed staffing levels at various times during the project
6. Proposed team, including personnel names, classifications, resumes (only if not included in the original RFP)
7. Subcontractors, and their level of participation
8. All costs shall be submitted in a separate, sealed envelope marked "Cost Proposal"

Proposal shall be no longer than 10 pages excluding attachments, resumes and figures.

Please submit three (3) hard copies and email one (1) electronic copy to this address no later than July 15, 2021, at 12:00 PM attention to the listed project manager. Award of the proposal is scheduled for August 10, 2021.

Specific cost proposals will be negotiated with the highest ranked firm, based on approved Caltrans ICR rates.

SCOPE OF WORK: FULL CONSTRUCTION MANAGEMENT SERVICES PROVIDING (AS CHECKED)

Resident Engineer	Weekly working days tracking
✓ Construction inspector(s)	Force account work analysis (if required)
✓ Licensed engineer required	Material testing
✓ Maintain project construction records	Environmental monitoring
Labor compliance interviews	RFI support
Prevailing wage review	Submittal review
Change order preparation	✓ Coordination with public
Progress payment preparation	✓ Photo documentation
Contract item pay quantity documents	✓ Weekly updates to County staff
Daily diaries	Coordination with other agencies

CONSULTANT WILL BE RATED BASED ON THE FOLLOWING:

1. Work Plan – Proposed plan to address the anticipated scope of work. Understanding of the work to be done with enough detail to complete the project. (35 pts/35%)
2. Experience of assigned project personnel on similar projects (35 pts/35%)
3. Efficiency of staff usage for the duration of the project (25 pts/25%)
4. Staff resources (5 pts/5%)

Each item above will be given a point value for a total of 100 points.

NCE Collaboration. Commitment. Confidence.℠

July 22, 2021

Mr. Zachary Lake, Senior Civil Engineer
County of Nevada, Community Development Agency
Department of Public Works
950 Maidu Avenue
Nevada City, CA 95959-7902

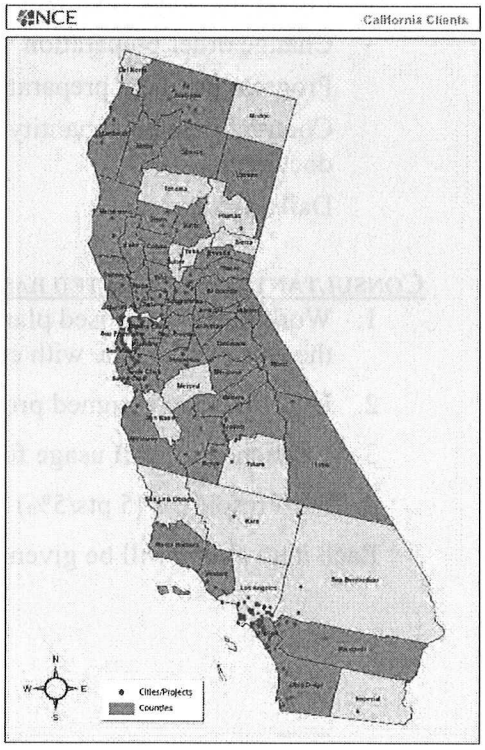
Proposal – Pavement Condition Index Survey

Dear Mr. Lake and Members of the Selection Committee:

Pavement networks are often the most valuable asset that an agency owns. This asset is not only expensive to replace but is an essential component to the traveling public's safety. Agencies are looking for more cost-effective ways to perform engineering, maintenance, management, and rehabilitation of roadways more than ever before to stretch funding allocations. An essential tool to assist in cost-effective roadway maintenance planning is a current pavement management program (PMP).

NCE has extensive experience in updating and maintaining PMP and working with agencies to maximize allocated funding. We are a nationally recognized pavement specialty firm, with broad capabilities and expertise in the areas of pavement management, asset management, civil and pavement design, and training. With more than 100 person-years of experience with StreetSaver®, NCE has more knowledge and expertise than any other pavement consulting firm. Additionally, NCE is a Metropolitan Transportation Commission (MTC) certified consultant with widespread experience in performing distress surveys. We offer the County:

- **Knowledgeable** of portions of the County's roadway network as we conducted the pavement design on Donner Pass Road.
- **StreetSaver experience and proficiency** – NCE staff have been working with StreetSaver® for over 200 cities and counties since 1997. We have provided both implementation, training and technical assistance to over 500 engineers, technicians, and agency staff in California.
- **Trained and MTC certified inspectors** – NCE's engineers and field inspectors are certified by MTC to ensure accurate, reliable, and consistent field data. We have performed pavement distress surveys on over 100,000 centerline miles of roads in California alone.
- **Innovative pavement strategies** – NCE is on the forefront of new pavement design methods, as well as mix designs and specifications that include warm mixes, recycling, use of rubber tires, and long-life pavements.
- **Incorporating sustainability options** – NCE has significant expertise to assist agency staff in the use of sustainable materials and recycling where possible and thereby decrease green-house gas emissions to meet AB32 goals.
- **Real-life knowledge** – NCE understands local agencies' needs and the types of problems frequently encountered, such as lack



Sacramento, CA
8795 Folsom Blvd., Suite 250,
Sacramento, CA 95826
(916) 388-5655

of trained personnel or funds, budgetary concerns, and other institutional issues inherent in the use of pavement management systems. NCE understands the constraints and has assisted agencies in arriving at realistic solutions.

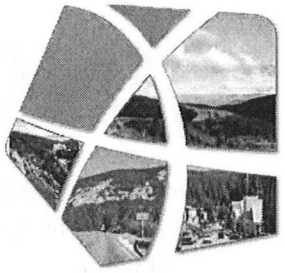
- **Rigorous quality control** – NCE's projects include a Quality Control manager, who reports directly to the project manager and provides a thorough review of documents prepared for deliverables. Additionally, NCE's technicians undergo a mandatory internal training/calibration once a year for field condition surveys, as well as for other PMS-related activities.

As an official of NCE, Margot Yapp is authorized to sign contracts on behalf of NCE and will be the point of contact for this proposal. She can be reached via phone at (510) 215-3620, or at MYapp@ncenet.com. NCE looks forward to your favorable review of our proposal and the opportunity to continue our work with the County.

Sincerely,

NCE

Margot Yapp, PE
Principal-in-Charge



Project Understanding

NCE has worked with many rural counties; we understand the needs of a sparsely populated rural county with a wide range of topography. We are familiar with the characteristics of rural road networks such as:

- Different standards or thresholds may be employed on different classes of roadways – for example, remote roads with very low traffic volumes may require a lower standard of treatment when compared to those with higher traffic volumes, or when compared to more "urbanized" areas.
- A much higher percentage of so called "non- engineered" roads, i.e., those that have chip seals over unimproved subgrade, sometimes multiple seals. The performances of these roads are not the same as hot mix asphalt concrete roads and this must be recognized in StreetSaver® and any future pavement rehabilitation design. This can have significant impacts on funding estimates.
- Obtaining a complete and accurate road inventory can be a challenge. Often, road signs are missing or do not match GIS or local maps; other roads may have been renamed, old roads may have been realigned, but are not reflected in the records, and ambiguities exist between what is a private road vs. a county/city-maintained road.
- Paved roads may have deteriorated to an "unpaved" condition.
- Budget constraints for most rural counties are significantly more challenging than for urban cities and counties. Oftentimes, the gap between how much money is needed and what dollars are available can be more than an order of magnitude, even despite Road Maintenance & Rehabilitation Account (RMRA) funding.
- More conventional treatments such as hot mix asphalt may be cost-prohibitive due to either long haul distances or budget constraints. Therefore, a greater reliance may be placed on warm mixes or seals. Other more recent cost-effective methods include cold-in-place recycling and full-depth reclamation techniques.

NCE's experience with pavement distress surveys in rural counties such as Placer, Yolo, Sacramento, Alpine, and Calaveras gives us a thorough understanding of some of the unique aspects in the County's jurisdiction.

We have also worked with the Rural Counties Task Force to develop 25-year projections for use in regional transportation plans.

Finally, it is our understanding that the County desires the selected consultant to:

- Update the StreetSaver® road inventory for Nevada County.
- Perform pavement condition surveys.
- Upload survey data to StreetSaver® and calculate the pavement condition index (PCI).

The County's pavement network is composed of approximately 407.1 centerline miles of publicly maintained roads, and in-house surveys have already been conducted on 131.7 centerline miles. This project will consist of surveying the remaining portion of the network (275.4 centerline miles.)

Functional Class	To Be Surveyed		Previously Surveyed	
	Centerline Miles	No. of Sections	Centerline Miles	No. of Sections
Arterial	2.3	4	-	-
Collector	160.6	162	85.7	86
Residential/Local	112.5	293	46.0	85
Total	**275.4**	**1,691**	**131.7**	**171**

The following work plan details the tasks required.

Work Plan

Task 1. Kick-off Meeting

NCE will first meet with County staff to kick-off 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, schedule and invoicing requirements
- Communication channels and protocols
- Field work
    - NCE safety procedures for field data collection
    - Scheduling and access requirements for field work
    - Public safety concerns, requirements, and procedures
    - Quality Control Plan (QCP)
    - Access to County's StreetSaver® database
    - New roads, if any
- Other items as needed

Prior to the kick-off meeting, NCE will prepare an agenda which will be sent to County staff for review prior to the meeting. An additional progress meeting may be held with County to review the work performed and to address any questions or issues that arise as the work progresses. Monthly progress reports will be submitted as well. It is assumed that meetings will be held remotely until the pandemic allows for in-person meetings.

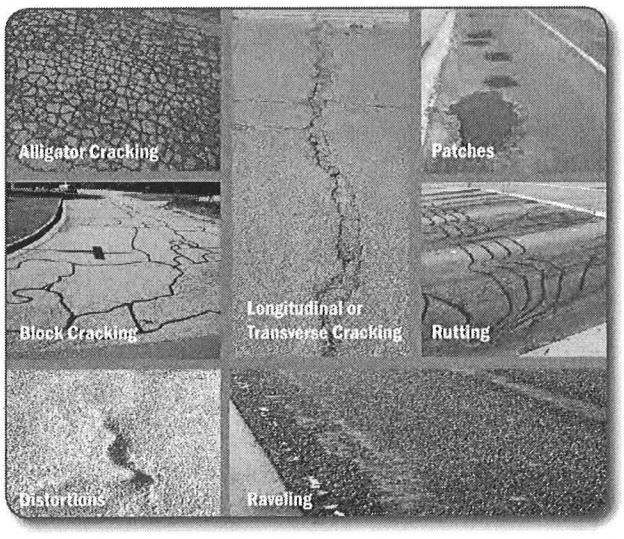
DELIVERABLES:

- Agenda and technical memorandum summarizing the results of meetings
- Monthly progress reports

Task 2. Condition Surveys & Quality Control

Condition Surveys

NCE will perform pavement condition surveys on approximately 275.4 centerline miles of pavement in this task. Condition surveys will be performed in accordance with MTC or ASTM D6433-20 "Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys" protocols as determined by the County. Any variation from the established protocol will be to accommodate unique local conditions, e.g., chip seals over portland cement concrete pavements, bleeding, edge cracking, etc. and will be discussed with the County. Localized areas that are not typical of the entire road section will be inspected and recorded as "special sample units." Typical distresses are shown in the graphic to the right.



The condition data collection will be performed via walking surveys following standard StreetSaver® protocols with a 10

percent sampling rate. Walking surveys have historically been used in the County and are performed by in-house by County staff.

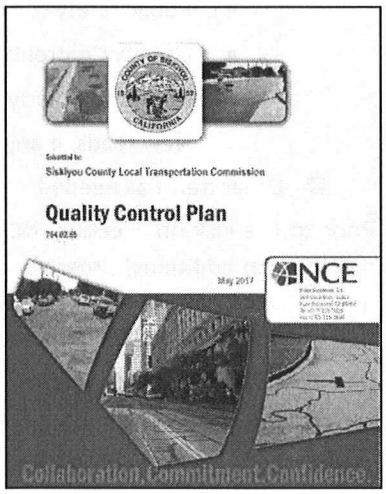
NCE will be responsible for providing all equipment necessary to perform this task. Should County personnel wish to observe NCE's crews during the surveys, we can accommodate their staff. Individual County staff may accompany NCE's field crews for up to 2 hours to gain hands-on, in-field training at no additional cost.

Please note that NCE's condition surveys do not include issues relating to safety and road hazards, geometric issues, road shoulders, drainage, or needed short-term maintenance.

Quality Control

Quality control (QC) checks are critical when 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 our projects. For this project, we propose the inclusion of a QC Manager, Dr. Sharlan Montgomery Dunn. She will be responsible for:

- Calibrating all data collection activities
- Reviewing 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
- Reviewing all data entry functions, including random spot checks
- Reviewing reports and analyses to ensure quality products



Prior to performing the condition surveys, NCE will prepare a QC Plan (QCP) and submit to the County for approval. The QCP will include the following:

- Description of condition survey procedures and all modifications will be documented so that future updates will be consistent
- Accuracy required for data collection or acceptability criteria
- Description of how data will be checked for accuracy, e.g., 5% re-inspection
- Safety procedures

Data Entry and PCI Calculations

All information collected from the condition surveys will then be uploaded into the StreetSaver database. This task will be performed at NCE's office in order to provide QC of all data entered into the system. NCE will then perform the pavement condition index (PCI) calculations and correct any errors found. PCI listing report will be prepared and submitted to the County.

DELIVERABLES:

- Quality control plan
- Updated StreetSaver® database with pavement distress data and calculated PCI
- Section PCI List

Experience with Similar Projects

Following are examples of relevant projects successfully completed by NCE within the last five (5) years with references that attest to NCE's level of experience and client satisfaction. Proposed key and support staff are noted in each NCE project description.

Placer County StreetSaver® Update

Client: Placer County Public Works Department
Contact: Kevin Taber, PE
Telephone: (530) 889-7565
Dates: 2016 – 2017
NCE services fee: $153,000

Scope of work: NCE was selected to update the County's StreetSaver® PMP. Overall project size: 542 centerline miles. The scope of work included:

- Performing peer review of StreetSaver® parameters
- Updating the functional classifications to FHWA designations
- Performing condition surveys on 675 miles of roads
- Determining the PCI
- Updating the maintenance and rehabilitation (M&R) strategies and decision tree
- Conducting funding analyses over twenty years
- Preparing a multi-year maintenance program.
- Linking the StreetSaver® database to the GIS

The County is unique in that the special prediction models were developed for high elevation roadways (i.e., 3500 feet). This elevation affects all of the roads in the Lake Tahoe region which leads to much more severe climatic impacts.

Key personnel: Margot Yapp, Project Manager | Marvin Mann – Field Technician

Yolo County Pavement Management Program Update

Client: Yolo County Department of Community Services
Contact: Lilia Razo, PE
Telephone: (530) 666-8845
Dates: 2016 – 2021
NCE services fee: $219,000

Scope of work: The County of Yolo has utilized the StreetSaver® software for more than 10 years. Historically, in-house staff performed the data collection; however, due to staff reductions, the County selected NCE in 2016 and 2020 to update the entire road network.

The scope of work focuses on collecting pavement distress data for the StreetSaver® program. NCE completed the last update of the Pavement Management System for the County of Yolo in 2016 and is currently working on the update for 2020. The scope of work includes distress/condition surveys of approximately 657 centerline miles using MTC StreetSaver® procedure and calculating the PCI. NCE delivered PCI/Remaining Service Life report as the final deliverable.

Key personnel: Margot Yapp, Project Manager | Marvin Mann – Field Technician | Jake Rajnowski, Field Technician

Sacramento County Pavement Management Update

Client: Sacramento County Public Works Department
Contact: Ken Wick, PE
Telephone: (916) 875-5336
Dates: 2013 – 2019
NCE services fee: $326,800

Scope of work: NCE was first contracted by the County to update the PMS in 2013. The County converted to the StreetSaver® PMS in the late 1990s but had not updated it since that time. The decision to update to the current version of StreetSaver® was intended to assist the County in managing the road network of approximately 2,200 centerline miles.

NCE began pavement condition surveys in 2017 and completed the entire network in 2018. All surveys are performed in accordance with ASTM D6433. The data collected were entered into the County's StreetSaver® database and the PCI determined. In addition, NCE performed the funding analysis to determine the funding shortfalls and prepare a five-year work plan for each Supervisorial District.

The goal of the County is to present the results to the Board of Supervisors and the public so that they will understand how the additional funding from SB1 will be allocated.

Key personnel: Margot Yapp, Project Manager

"Our experiences with the NCE staff and project teams have been very positive. We found NCE project teams to be highly knowledgeable, very professional, and responsive throughout the course of each project they have worked on for the County. In the most recent project, the NCE Project Team, headed by Margot Yapp, exemplified subject-matter expertise, project organization, and collaboration. The team was also proactive in handling the schedule and costs. We are very pleased with the product we have received. The analysis and recommendations made by Nichols Consulting Engineers for this project have greatly helped our planning and funding efforts for the County pavement maintenance and rehabilitation program."

Reza Meghissi, Chief, Sacramento County Department of Transportation

City of Sacramento Pavement Management Update

Client: City of Sacramento, Public Works Department
Contact: Greg Smith, Senior Civil Engineer
Telephone: (916) 808-8364
Dates: 2017 – 2022
NCE services fee: $300,000

Scope of work: With over 3,000 lane-miles of streets, the City owns and maintains the fifth largest street network in California. In 2016, the City converted to the StreetSaver® PMP software and needed results from an updated PMS in less than six weeks. NCE implemented an aggressive field data collection schedule to meet this goal.

All of the data collected were entered into the StreetSaver® database and analyzed to generate PCI and reports. NCE performed budget needs analysis scenarios to identify road sections that need treatment and apply the M&R decision trees to each section. The scenarios evaluation prioritized sections for repair under constrained, realistic, budgetary assumptions. Finally, NCE assisted in developing and presenting of study findings to the City Council.

NCE was recently selected to update the City's PMP for 2020 – 2022.

Key personnel: Margot Yapp, Project Manager | Sharlan Dunn, PhD, EIT, Project Engineer | Marvin Mann, Senior Field Technician | Jake Rajnowski, Senior Field Technician

"Of particular value to me was NCE's ability to develop a Pavement Condition Report that was geared to educate the public and elected officials with the challenges the City faces maintaining its pavement infrastructure. The report was very well done and became a popular template for other agencies maintaining pavement infrastructure in the Sacramento region. I recommend NCE to other organizations and hope to continue working with them in the future. They are hardworking, top-performing customer service-oriented professionals."

Gregory J. Smith, PE, Senior Engineer, City of Sacramento PWD

Calaveras Council of Governments Countywide Pavement Management Implementation

Client: Calaveras Council of Governments
Contact: Amber Collins
Telephone: (209) 754-2094
Dates: 2018 – 2020
NCE services fee: $160,000

Scope of work: The Calaveras Council of Governments selected NCE to implement a robust pavement management system that the County (767 centerline miles) and the City of Angels Camp (32 miles) could access to provide more accurate information regarding their street networks. Both the County and the City had legacy software and StreetSaver was selected to replace them. NCE's scope included:

- Review of legacy databases and GIS shapefiles
- Implement pavement database to StreetSaver
- Perform condition surveys on approximately 799 miles of paved roads and determining the PCI
- Update M&R Strategies
- Budget analysis and funding scenarios
- Selecting roads for repair using SB1 to be submitted to the CTC
- Training & Technical Support
- Presentations to City Council and staff

Key personnel: Margot Yapp, Project Manager | Sharlan Dunn – Project Engineer

NCE has delivered PMS services for the following regional/countywide PMS projects.

Client	No. of Agencies	Centerline Miles	Services
Mendocino Council of Governments	County and four Cities	789	PMS Implementation & Updates
Transportation Agency for Monterey County	County and seven Cities	1,375	PMS Implementation
Madera County	County	2,104	PMS Implementation
Fresno Council of Governments	9 Cities	328	PMS Implementation
Lake County Area Planning Council	County and two Cities	600	PMS Implementation & Updates
Humboldt County Association of Governments	County and seven Cities	1,195	PMS Implementation & Updates
Glenn County Transportation Commission	County and two Cities	815	PMS Implementation & Updates
Stanislaus Council of Governments	County and nine Cities	1,873	PMS Implementation & Updates
Siskiyou County Local Transportation Commission	County and nine Cities	1,073	PMS Implementation & Updates/Regional Analysis)
Shasta County	County	900	PMS Implementation
Mariposa County	County	476	PMS Implementation & Updates
Tuolumne County	County	522	PMS Implementation
Amador County	County and four Cities/Towns	455	PMS Implementation
Placer County	County	952	PMS Update
Sacramento County	County	2,190	PMS Update
Yolo County	County	657	PMS Update
Contra Costa County	County	650	PMS Update
Sonoma County	County	1,380	PMS Update
Marin County	County and 11 Cities	1,033	PMS Regional Analysis
Inyo County	County and one City	541	PMS Implementation & Updates
Metropolitan Transportation Commission	75+ Counties and Cities	>10,000 miles	PMS Updates
Orange County	County and two Cities	656	PMS Implementation & Updates
Totals	**>137 agencies**	**30,332+**	

Schedule

Task Description	Weeks from Notice to Proceed													
	August			September				October				November		
	16	23	30	6	13	20	27	4	11	18	25	1	8	15
1. Kick-off Meeting (Project Start Up)	X													
2. Pavement Condition Surveys (Data Collection and Quality Control)														

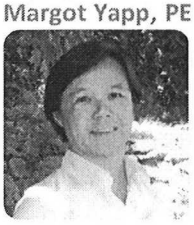
Assumptions
"X" indicates meeting
Task 2 assumes no weather delays

Staffing Levels by Task

Task Description	Hours per Task			
	Margot Yapp Principal/Project Manager	Sharlan Dunn Project Engineer/QA/QC	Marvin Mann Field Technician	Jake Rajnowski Field Technician
1. Kick-off Meeting	4	6		
2. Pavement Condition Surveys	4	24		
Data Collection			200	200
Quality Control		4		

Proposed Team

NCE has specifically hand selected a highly qualified, local, and multi-disciplinary team that provides an in-depth understanding of the project scope and objectives. The NCE team is committed to the project for its duration; personnel will not be substituted without prior approval from the County. Qualifications summaries for key and support staff are provided below and resumes for staff not included in our on-call proposal are included in Appendix A.



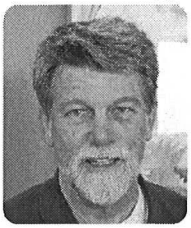
Margot Yapp, PE is NCE's Project Manager for this project. Ms. Yapp has over 30 years of experience in implementing and updating pavement management systems. Her experience includes numerous turnkey implementations and updates of pavement management systems for cities, counties and airports throughout California, Oregon, Nevada, Hawaii and Texas. She has worked with the StreetSaver® software since 1987 and implemented pavement management systems for over 100 agencies in California.

Her projects have included the use of various pavement management software packages, both public domain software (StreetSaver® and PAVER™) as well as proprietary software (Cartegraph). She has managed numerous PMS projects and has been involved in every aspect of PMS implementations and updates from collecting field data, performing condition surveys, calculating analyses, report preparation, and result presentations to decision makers, project management, and quality control. She is familiar with jurisdictions in the Bay Area, having worked with more than half the cities and counties since 1997.

Sharlan Montgomery Dunn, PhD, EIT is NCE's proposed Quality Control Manager and Deputy Project Manager. Dr.

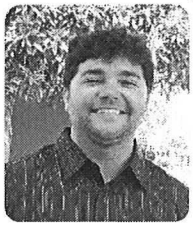
Dunn joined NCE as a project engineer in 2018 after graduating from Purdue University with a PhD in civil engineering with an emphasis in pavement management and pavement materials. She has extensive research and design experience in pavement design, management, and materials. She currently serves as a project engineer for pavement management, maintenance, rehabilitation, design, and planning projects. Her current clients include the Counties of Alameda, Calaveras, Sacramento, Santa Cruz, Monterey and San Diego as well as the Cities of San Francisco, Oakland, Sacramento, Campbell, Novato and Fairfield. **She is certified by MTC to perform condition surveys.**

Marvin Mann, proposed Senior Field Technician, is a pavement management technician and is experienced in collecting



distress data as per MTC protocols and ASTM D6433. He is certified by the MTC inspector certification program. He has performed condition surveys for over 50 local agencies in Northern California, such as the Cities of San Francisco, Oakland, Richmond, Fairfield, Calistoga, St. Helena, Davis, Clearlake, and Counties of Mendocino, Lake, Alameda, Marin, Yolo, and Sonoma. Apart from conducting field inspections, Marvin performs all functions related to data collection and is an active participant in the QC process, including crosschecks of data in the PMS database, quality control checks of field collected data and pavement maintenance history to ensure that PMS databases are accurate and up to date. During this process, detailed reports are generated to perform crosschecks of the data collected. **He is certified by MTC to perform condition surveys.**

Jacob Rajnowski, proposed Senior Field Technician joined NCE in 2016 as a pavement management technician and is



experienced in collecting distress data and coring samples for pavement management systems. His clients include the Counties of Calaveras, Madera, Sacramento, Sonoma, Siskiyou and Lake as well as the City of San Francisco, Richmond and Sacramento. **He is certified by MTC to perform pavement distress inspections.**

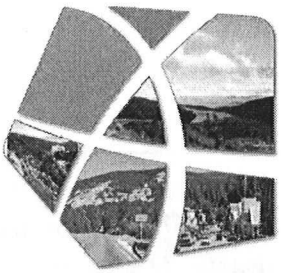
Apart from conducting field inspections, Jake performs all functions related to data collection and is an active participant in the QC process, including crosschecks of data in the PMS database, quality control checks of field collected data and pavement maintenance history to ensure that PMS databases are accurate and up to date. During this process, detailed reports are generated to perform crosschecks of the data collected.

Subcontractors

Subconsultants are not anticipated for this project.

Costs

Per the requirements of the RFP, NCE has included our cost proposal in a separate sealed envelope with our submittal.



A Resumes

Margot Yapp, PE – Project Manager

Education
MS, Civil Engineering, 1987, Oregon State University, Corvallis

BS, Civil Engineering, 1985, Oregon State University, Corvallis

BS, Forest Engineering, 1985, Oregon State University, Corvallis

Registrations/Certifications
Professional Engineer – Civil, CA, #45027

Affiliations
American Society of Civil Engineers

American Public Works Association

TRB Subcommittee A2B01 – Local Agency Pavement Management

Years of Experience
30 years

Margot Yapp has 30 years of experience in the area of transportation engineering, specializing in pavement design, asset/pavement management, and research for roads, highways, and airfields. She has implemented many PMP/PMS for cities, counties, and airports in California, Oregon, Nevada, Hawaii, and Texas. Margot has taught workshops on PMPs/PMSs for the National Highway Institute and FHWA. She has delivered similar projects for the Counties of Mendocino, Fresno, Monterey, Sacramento, Placer, Lake, Tuolumne, Amador, Shasta, Siskiyou, Humboldt, Trinity, Sonoma, Madera, Napa, and Stanislaus, as well as the Cities of Stockton, Modesto, Sacramento, San Francisco, and San Jose.

Representative Projects

Statewide Local Streets and Roads Needs Assessment, League of California Cities/County Engineers Association of California/California State Association of Counties, CA. Project Manager. NCE has prepared the biennial needs analysis for both pavement and non-pavement assets for 540 cities and counties since 2008. This includes the development of a website, online database and data collection, and funding analysis. The results are used to document the funding needs for the next 10 years and assisted in the passage of SB1. The results are communicated to a variety of audiences, including state legislators, elected city/county officials, Directors of Public Works, engineers, and planners.

Multiple PMS Updates and Implementations, Various Cities and Counties, CA. Project Manager. Margot has been responsible for PMS updates for many cities and counties inside and outside of California. She is responsible for the analysis and quality control of pavement distress data collection, updating M&R decision trees and the treatment unit costs, and the development of budget scenarios and summary reports. She has developed cost-effective maintenance treatments and strategies, prepared custom multiple-year detailed street maintenance plans and budget option reports, and linked GIS maps with management sections in the client's PMS database. Some of her current/past PMS clients include **(similar countywide implementations are in bold):**

- Alameda
- Albany
- **Alpine County**
- Amador County LTC
- Antioch
- Bakersfield
- Benicia
- Calistoga
- Campbell
- Carson
- Contra Costa County
- Daly City
- Davis
- Dixon
- Dublin
- Fairfield
- **Folsom**
- Fremont
- Fresno COG
- Hayward
- Humboldt County AOG
- Lake County APC
- Livermore
- Los Altos
- Los Gatos
- Marin County
- Mendocino COG
- Monterey County and cities (TAMC)
- Moraga
- Napa County
- Newark
- Oakland
- OCTA
- Orinda
- **Placer County**
- Placerville
- Richmond
- **Sacramento**
- **Sacramento County**
- San Bruno
- San Diego County
- San Francisco
- San Francisco International Airport
- San Jose
- San Mateo County
- San Pablo
- Santa Cruz
- Santa Cruz County
- Shasta County
- Siskiyou LTC
- Sonoma County
- Sunnyvale
- St. Helena
- Stanislaus COG
- Trinity County
- **Yolo County**

Sharlan Dunn, PhD, EIT – Project Engineer

Dr. Dunn joined NCE as a project engineer in 2018 and immediately began working on pavement management projects. She graduated from Purdue University in 2018 with a PhD in civil engineering with an emphasis in pavement management and pavement materials. She has extensive research experience in pavement design, management, and materials. She currently serves as a project engineer for pavement management, maintenance, rehabilitation, design, and planning projects. Dr. Dunn is certified by the MTC to perform pavement distress inspections; the certification testing involves passing a rigorous field test.

Education
PhD, Civil Engineering, Purdue University, 2018

Registrations/Certifications
Engineer-in-Training (EIT)
MTC StreetSaver® Rater Certification Program

Affiliations
American Society of Civil Engineers

Years of Experience
5 years

Joined NCE
2018

Representative Projects

Pavement Management Update and Transportation Infrastructure and Rehabilitation Program, Davis, CA Project Engineer. In addition to updating the PMS for the city, Sharlan was responsible for the pavement design of several residential and arterial streets as well as the reconstruction of several bike paths. This project is part of a three-year contract with the city to perform pavement management, pavement design, and civil design services and involved pavement condition surveys, coring, non-destructive pavement deflection testing, laboratory material evaluation, design, and base repair location identification. The pavement design projects were divided into separate bid packages for slurry seals, road rehabilitation and reconstruction, and bike path reconstruction to attract more contractors and minimize contractor mark-ups on subcontractors.

Local Agency Pavement Surface Evaluation, West Lafayette, IN. Graduate Research Assistant. Dr. Dunn evaluated the accuracy of statewide pavement surface evaluations performed by local agencies in partnership with the Indiana Local Technical Assistance Program. She determined factors influencing pavement surface evaluation and rating accuracy and variability. Her work has influenced the type, availability, and format of pavement evaluation trainings; has been incorporated in statewide pavement condition reports; and has affected state legislation and funding allocation and requirements.


CERTIFICATE OF ACHIEVEMENT

This is to certify that

Sharlan Dunn

has completed the requirements of the

MTC StreetSaver Rater Certification Program

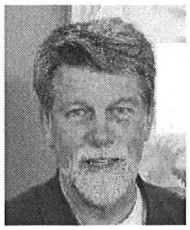
Certificate valid until May 22 2021

StreetSaver

Pavement Management System Updates, Various Cities and Counties, CA. Staff Engineer. Project Engineer. Dr. Dunn has been involved in developing and updating PMS plans for several cities and counties in Northern California. She has been responsible for pavement distress data collection, analysis and quality control; updated M&R decision trees and treatment unit costs; performed multiple-year budget scenario analyses; and prepared summary reports. Some of her current/past clients include **(similar countywide implementations are in bold):**

- Alameda County
- **Calaveras County**
- Campbell
- **Davis**
- **Elk Grove**
- Fairfield
- Fresno COG
- Madera County
- Marin County
- Monterey County (TAMC)
- Novato
- Oakland
- Sacramento
- Sacramento County
- Sacramento International Airport
- Santa Cruz County
- San Francisco
- San Francisco International Airport
- Seaside
- Siskiyou County LTC
- Sonoma County

Marvin Mann – Field Technician



Mr. Mann joined NCE in 2011 as a pavement management technician and is experienced in collecting distress data for pavement management systems. He has completed the MTC "Distress Identification" courses for both Asphalt Concrete and Portland Cement Concrete Pavements. Mr. Mann is certified by the MTC to perform pavement distress inspections; the certification testing involves passing a rigorous field test.

Apart from conducting field inspections, Mr. Mann has performed all functions related to data collection and is an active participant in the QC process. As part of the quality control process, he performs crosschecks of data in the PMS database. Mr. Mann has performed quality control checks of field collected data and pavement maintenance history to ensure that PMS databases are accurate and up to date. During this process, he also generates detailed reports, which are needed to help perform his crosschecks of the data collected. He has completed condition inspections for over 2,500 centerline miles of roads and streets, which include inspections on bituminous Asphalt Concrete Pavements and Portland Cement Concrete Pavements. Listed below are some of the agencies where Mr. Mann has performed condition inspections. Additionally, Marvin has inspected trails and bike paths for the Cities of Folsom, Livermore and Davis, as well as UC Davis and the East Bay Regional Parks District. He has also inspected airfield pavements in Amador County and UC Davis.

Education

Certificate – Architecture Technology – Diablo Valley College, 2010

Certificate – 3D Arts – San Francisco State University, 2002

Associates Degree in Wood Technology – Laney College, 1997

Registrations and Certifications

USGBC Green Associate 2009

MTC StreetSaver® Rater Certification Program

Total Years of Experience

10 years

Representative Projects

Pavement Management Inspections, Various Locations. Senior Field Technician. Projects included various forms of surveys for pavement distress data collection, this may have included walking, windshield, and/or semi-automated. His clients include the following cities and counties:

- Ada County, Idaho
- Atherton
- Ceres
- Dana Point
- El Centro
- Lake Forest
- Madera County
- Mission Viejo
- **Placer County**
- San Francisco
- Turlock
- Whittier
- **Sacramento County**
- Albany
- Bakersfield
- Chula Vista
- Davis
- Fairfield
- Lakeport
- Manhattan Beach
- Modesto
- Richmond
- Stanislaus County
- Ukiah
- Willits
- San Francisco Airport
- Amador County
- Benicia
- Clearlake
- Diamond Bar
- Folsom
- Lincoln
- Mariposa County
- Monterey County
- Rio Linda
- San Pablo
- Torrance
- Vallejo
- Yountville
- Anaheim
- Calistoga
- Contra Costa County
- Dixon
- Fort Brag Lake County
- Livermore
- Mendocino County
- Mt Shasta
- San Bruno
- St. Helena
- Trinity County
- Ventura County


CERTIFICATE OF ACHIEVEMENT

This is to certify that

Marvin Mann

has completed the requirements of the

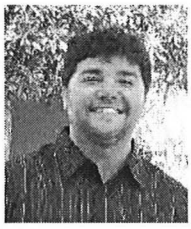
MTC StreetSaver Rater Certification Program

Certificate valid until May 42 2020

Serial no 1476

StreetSaver

Jake Rajnowski – Field Technician



Mr. Rajnowski joined NCE in 2016 as a pavement management technician and since then, has gained in-depth knowledge and expertise in collecting distress data and coring samples for pavement management systems. His current experience includes collecting pavement distress data for the Counties of Calaveras, Sonoma and Lake. Mr. Rajnowski is certified by the MTC to perform pavement distress inspections; the certification testing involves passing a rigorous field test.

Apart from conducting field inspections, Mr. Rajnowski routinely performs all functions related to data collection and is an active participant in the QC process, including crosschecks of data in the PMS database, quality control checks of field collected data and pavement maintenance history to ensure that PMS databases are accurate and up to date. During this process, detailed reports are generated to perform crosschecks of the data collected. Additionally, Mr. Rajnowski has completed the OCTA PAVER™ 'Distress Identification' course for Asphalt Concrete and Portland Cement Pavements. Also, since 2016 he has performed condition surveys at San Francisco.

Education
Sterling High School, Sterling, IL, 2003

Registrations/Certifications
OCTA Pavement Inspector Prequalification

MTC StreetSaver® Rater Certification Program

Years of Experience
5 years

Representative Projects

Pavement Management Inspections, Various Locations. Senior Field Technician. Projects included various forms of surveys for pavement distress data collection, this may have included walking, windshield, and/or semi-automated. His clients include the following cities and counties:

- Ada County, ID
- Buena Park
- Burbank
- **Calaveras County**
- Coalinga
- Diamond Bar
- Fresno City
- Half Moon Bay
- Humboldt County
- Kingsburg
- Laguna Niguel
- Lake County
- Lincoln
- Marin County
- Moreno Valley
- Mission Viejo
- Orange County
- Orange Cove
- **Placer County**
- Pleasant Hill
- Redondo Beach
- Rocklin
- **San Francisco**
- Santa Ana
- San Gabriel
- Sonoma County
- Sacramento City
- San Francisco
- Stockton
- Thousand Oaks
- Trinity County
- Ventura
- Walnut Creek
- **Yolo County**


CERTIFICATE OF ACHIEVEMENT

This is to certify that

Jake Rajnowski

has completed the requirements of the

MTC StreetSaver Rater Certification Program

StreetSaver

Nevada County
Pavement Condition Index Survey
Cost Proposal

Task Description	Hourly Breakdown by Personnel				Other Direct Costs	Total Cost
	Principal/ Project Manager	QA/QC	Project Engineer	Field Technician		
Hourly Rate	$ 311.54	$ 147.55	$ 147.55	$ 77.89		
1. Kickoff & Progess Meetings	4		6		$ 300	**$ 2,431.46**
2. Condition Surveys & QC	4	4	24	400	$ 13,227	**$ 49,760.56**
Total	8	4	30	400	$ 13,527	$ 52,192.02

Assumptions & Notes

Task 1 assumes virtual meetings.

Task 2 includes survey of approx. 275 miles (1691 sample units are assumed). Includes training County staff at no additional cost and 5% reinspection for QC. Assumes no new roads, and that database is accurate and up to date.

Other direct costs include travel.

Hourly rates as per approved schedule of charges.

Submitted by: Nichols Consulting Engineers, Chtd. (NCE)

July 23, 2021

SCOPE OF WORK

In general, the consultant's scope of work includes the following:

- Update the StreetSaver® road inventory for Nevada County.
- Perform pavement condition surveys.
- Upload survey data to StreetSaver® and calculate the pavement condition index (PCI).

The County's pavement network is composed of approximately 407.1 centerline miles of publicly maintained roads, and in-house surveys have already been conducted on 131.7 centerline miles. This project will consist of surveying the remaining portion of the network (275.4 centerline miles.)

Work Plan

Task 1. Kick-off Meeting

NCE will first meet with County staff to kick-off 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, schedule and invoicing requirements
- Communication channels and protocols
- Field work
    - NCE safety procedures for field data collection
    - Scheduling and access requirements for field work
    - Public safety concerns, requirements, and procedures
    - Quality Control Plan (QCP)
    - Access to County's StreetSaver® database
    - New roads, if any
- Other items as needed

Prior to the kick-off meeting, NCE will prepare an agenda which will be sent to County staff for review prior to the meeting. An additional progress meeting may be held with County to review the work performed and to address any questions or issues that arise as the work progresses. Monthly progress reports will be submitted as well. It is assumed that meetings will be held remotely until the pandemic allows for in-person meetings.

DELIVERABLES:

- Agenda and technical memorandum summarizing the results of meetings
- Monthly progress reports

Task 2. Condition Surveys & Quality Control

Condition Surveys

NCE will perform pavement condition surveys on approximately 275.4 centerline miles of pavement in this task. Condition surveys will be performed in accordance with MTC or ASTM D6433-20 "Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys" protocols as determined by the County. Any variation from the established protocol will be to accommodate unique local conditions, e.g., chip seals over Portland cement concrete pavements, bleeding, edge cracking, etc. and will be

discussed with the County. Localized areas that are not typical of the entire road section will be inspected and recorded as "special sample units."

The condition data collection will be performed via walking surveys following standard StreetSaver® protocols with a 10 County of Nevada percent sampling rate. Walking surveys have historically been used in the County and are performed by in-house by County staff.

NCE will be responsible for providing all equipment necessary to perform this task. Should County personnel wish to observe NCE's crews during the surveys, we can accommodate their staff. Individual County staff may accompany NCE's field crews for up to 2 hours to gain hands-on, in-field training at no additional cost.

Please note that NCE's condition surveys do not include issues relating to safety and road hazards, geometric issues, road shoulders, drainage, or needed short-term maintenance.

Quality Control

Quality control (QC) checks are critical when 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 our projects. For this project, we propose the inclusion of a QC Manager, Dr. Sharlan Montgomery Dunn. She will be responsible for:

- Calibrating all data collection activities
- Reviewing 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
- Reviewing all data entry functions, including random spot checks
- Reviewing reports and analyses to ensure quality products
- Prior to performing the condition surveys, NCE will prepare a QC Plan (QCP) and
- submit to the County for approval. The QCP will include the following:
- Description of condition survey procedures and all modifications will be
- documented so that future updates will be consistent
- Accuracy required for data collection or acceptability criteria
- Description of how data will be checked for accuracy, e.g., 5%
- re-inspection
- Safety procedures

Data Entry and PCI Calculations

All information collected from the condition surveys will then be uploaded into the StreetSaver database. This task will be performed at NCE's office in order to provide QC of all data entered into the system. NCE will then perform the pavement condition index (PCI) calculations and correct any errors found. PCI listing report will be prepared and submitted to the County.

DELIVERABLES:

- Quality control plan
- Updated StreetSaver® database with pavement distress data and calculated PCI
- Section PCI List