

## EXHIBIT A

### SCOPE OF SERVICES

The City of San Leandro is launching a project to complete a Pavement Cut Impact Fee Study (Fee Study) to assess the structural and functional damage caused for the varying functional classes and pavement ages with the varying Pavement Condition Index (PCI). The Fee Study will result in recommended pavement cut fees for the City that complies with all current applicable federal, state, local laws and regulations.

#### **Task I – Preliminary Pavement Fee Study Analysis**

##### **Task IA – Literature Review**

This task will include summary of recent pavement cut fee studies performed by various cities in the Bay Area as well as throughout California and nationally.

As a part of this task, NCE will conduct a detailed review of the studies that are most pertinent to the City including any follow-up information (i.e., economic impacts, associated costs, fees and ordinance development, agency adoptions, and implementation). At a minimum, the review will include methodology of various studies for fee development, comparison of zone(s) of influence established by various studies, importance of restoration standards, comparison of restorations and moratorium standards among California agencies and pavement cut policies.

##### **Deliverables**

Memorandum summarizing literature review

##### **Task IB – Impact Fee Study**

This task covers the items related to impact fee development mentioned in the scope of work provided by the City. As noted earlier, the impact of cuts can be evaluated using two approaches: a Historical Evaluation using PMS database and a Field Evaluation testing actual sites.

Historical evaluation includes analysis of functional damage on the pavement due to cuts using historical inspection data and rehabilitation history from the StreetSaver® database.

- Field evaluation includes the analysis of both functional and structural damage on pavement caused by cuts based on existing sites with cuts.

While the historical evaluation includes analysis of hundreds of data points from the past, the field evaluation includes analysis of approximately 24-30 field sites with and without cuts. Marrying these two evaluation approaches yields a robust fee schedule which accounts for both functional and structural damage based on past and present circumstances.

##### **Task IB.1- Data Collection**

NCE will coordinate with City staff to obtain the necessary information and assumptions to perform a comprehensive impact study. The required information includes:

- Access to City's PMP database
- Recent bid tabs
- Locations of pavement cuts (details will be discussed during kickoff meeting)
- Pavement structural data for the streets under investigation
  - Typical asphalt thickness, aggregate base thickness, and R-values
  - Design Traffic Index (TI)

### **Task IB.2 Historical Evaluation**

Under this task, NCE will analyze the City's historical pavement inspection data in the StreetSaver® database and compare characteristics of street sections with and without cuts to evaluate impacts on pavement service life due to cuts.

The City's StreetSaver® database contains inspection data since 2007. This robust database is expected to provide over 500 sample units with or without cuts that can be used for the analysis. The rehabilitation date will be used to determine the pavement age at the time of the cut.

Subsequently, NCE will review the City's StreetSaver® database to extract sections with cuts and compare their PCIs before and after the cuts for different functional classifications and condition categories. Pavement deterioration curves of cut and no-cut sections will be developed using the historical data from the City's database similar to Figure 4. The pavements with cuts are expected to deteriorate faster compared to the pavements without cuts. The results will be summarized for and used to develop a fee schedule in Task IC. This task assumes labor related to big-data processing and analysis.

### **Task IB.3 Field Evaluation**

A field evaluation of a minimum of 24 sites containing cuts on streets of different functional classifications and condition categories will be conducted. For each site, a pair of 100-ft sections (one with cut and one without cut) will be evaluated using field testing and PCI survey to assess the impact of cuts on the pavement.

Deflection testing will be conducted at the sites on both sections using a falling weight deflectometer to assess the loss of structural capacity due to the presence of cuts. A PCI survey will be conducted on the pair of sections within the selected sites to assess the functional damage.

#### **Task IB.3.1 Site Selection**

This task will require interaction with City staff, as NCE will have to review the sites provided and select appropriate sites for testing. Our cost estimate assumes a total of 24 test sites; each site will have a section with a cut and one without a cut (Figure 5) for comparison.

NCE will mark a total of 54 sections with and without cuts (27 test sites) with white paint in the field. An additional 3 sites will be marked as optional if field testing cannot be performed on any of the first 24 sites. This task includes labor related to field visit, site inspection, site marking for field testing (coring and deflection testing), travel time, reimbursable costs of meal and transportation.

#### **Task IB.3.2 Structural Analysis**

Deflection testing will be conducted along the cut, 2 feet away from the cut (known as the zone of influence) as well as on the section with no cuts (see Figure 6). The premise is that cutting into a pavement will structurally weaken the surrounding areas due to the "slumping" effect.

Deflection testing can be used to establish the relative loss of structural capacity resulting from the presence of pavement cuts. This loss of structural capacity necessitates thicker overlays, thus increasing the cost of rehabilitation for a street with cuts over a street with no cuts. The calculation of overlay thickness will require actual existing pavement thickness which will be obtained through cores. By comparing the costs of overlays for sections with and without cuts, the increased cost attributable to the cut can be assessed.

This task includes labor related to deflection testing and coring, travel time, cost of traffic control, and reimbursable costs of meal and transportation. Cost of coring could be reduced if the City can provide pavement thickness for the selected candidates.

### **Task IB.3.3 PCI Survey**

In this task, NCE will conduct PCI walking surveys using the Metropolitan Transportation Commission (MTC) modified ASTM D64334 survey procedures on each field site. The field inspection data will be processed using StreetSaver® database to obtain PCI for the sections with and without cuts. The differences in PCI between the sections with and without cuts will be evaluated for functional damage. This task includes labor related to pavement condition survey of 48 100-ft sections (24 pairs of test sites), travel time, reimbursable costs of meal and transportation and field data processing/analysis.

### **Task IC – Develop Fee Schedule**

Since cuts can cause damage to pavements structurally and functionally, both types of evaluations are crucial in developing a fee to compensate for appropriate damages. NCE will next develop a fee schedule using both approaches (historical and field investigation) that will recover the impact of cuts for the City. Typical costs of repairs and types of repairs will be obtained from the city and will be used to develop the fee. The following cost data will be required from the City to develop the fee:

- Construction and construction management of pavements costs
- Design costs
- Agency overhead costs
- Non-pavement items such as striping, traffic control, signal loops etc.
- Other costs as appropriate

This task includes labor related to data combining/processing/analysis from Tasks IB.2 and IB.3.

### **Task ID – Moratorium Development**

The City currently does not have a moratorium and would like to have one in place. Under this task, NCE will review the following and provide recommendations for the City:

- Moratorium policies of the Cities' neighboring agencies,
- City's current practices regarding cuts on a newly treated pavement,
- City's usual construction schedule and treatment cycle

### **Task II – Pavement Fee Study Workshop**

NCE will assist the City in presenting the findings of the pavement fee study at a dedicated workshop. The presentation will include an overview of the methodology, a discussion of evaluated alternatives, and the recommended approach. Prior to the workshop, NCE will meet with City staff to review and refine the presentation materials to ensure accuracy, clarity, and consistency with the City's communication objectives. The cost assumes one virtual presentation.

### **Deliverables**

PowerPoint Presentation

### **Task III – Draft and Final Reports**

Upon completion of the analysis under Task IB, NCE will prepare a draft study report for the City to review. Upon receipt of the comments on the draft report, NCE will complete the final report for submittal. The report will include the following:

- Introduction/background
- Results of literature review
- Technical approach
- Results of structural analysis
- Results of functional analysis
- Strategy of developing fee
- Recommendation and implementation of fee
- Comparison of results with other studies

### **Deliverables**

Draft and Final Report (electronic)

This task includes labor related to drafting a report with all information gathered from Task I, addressing one round of City's comments followed by finalizing the report.

### **Task IV – Public Outreach and Presentations**

NCE will assist the City with up to three additional presentations, which may include meetings with the Facilities and Transportation Commission, City Council, or other stakeholders following completion of the draft pavement fee study.

NCE has extensive experience delivering similar presentations to both technical and non-technical audiences. Technical groups such as advisory committees often prefer in-depth discussion of analytical methods and results, while policy-focused audiences (e.g., City Council) typically emphasize key findings and recommendations. NCE will tailor the presentation materials and messaging to each audience and provide City staff with the level of support desired.

This task includes coordination with City staff, development of all presentation materials, and attendance and delivery at up to three specified meetings or events. Meetings may be conducted in-person or virtually, and the scope includes travel time and related accommodation necessary to participate in two in-person meeting and one virtual meeting.

### **Task V – Alternative Forms of Revenue Generation (Optional Task)**

NCE will identify and evaluate additional opportunities to generate pavement-related revenue from utility work activities within the City that are outside the scope of the primary pavement fee study. This may include consideration of heavy construction vehicle impact fee, waste vehicle fee or other fee mechanisms implemented by peer agencies.

NCE will document potential options, summarize their rationale, applicability, and implementation requirements, and provide recommendations for future analysis or policy consideration by the City. These options will support the City's long-term goal of establishing a sustainable and equitable pavement management funding strategy.

### **Task VI – Implement Fee Study Schedule (Optional Task)**

Following completion of the pavement fee study, NCE will provide post-study assistance to support City staff by:

- Reviewing the technical aspects of the City's ordinance or
- Providing recommendations for policy text if necessary to incorporate the pavement fee structure into the City's Municipal Code after being reviewed by the lawyers.

- Preparing PowerPoint presentations and supporting materials for internal discussions with City management and for formal presentations to the City Council or other advisory bodies.
- Providing technical support in responding to City staff, management, or Council inquiries related to study assumptions, fee methodology, and recommendations.
- Revising and updating draft documents, presentations, or analysis as requested to reflect City feedback or policy direction.

### **Task VII – Deliverables**

NCE will provide the following deliverables which are mentioned under the tasks above. This task includes additional comments and feedback (if any).

1. Fee Study Workshop Presentation
2. Draft Pavement Fee Study
3. Final Pavement Fee Study

### **Task VIII – Project Management and Meetings**

NCE will first meet with City 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:

- Project goals
- Scope of work, project schedule, budget and invoicing requirements
- Communication channels and protocols
- Information needed from the City
- Other items as needed.

Prior to the kick-off meeting, NCE will prepare a detailed agenda which will be sent to City staff for review prior to the meeting. This task assumes one kick-off meeting and two progress meetings. It is assumed that meetings will be held virtually. This task assumes that one virtual meeting will be held with City staff to coordinate the collection of the necessary information and assumptions.

### **Deliverables**

Agenda and technical memorandum summarizing the results of meetings.