



PAVEMENT AND ASSET DATA COLLECTION (PADC)

REQUEST FOR PROPOSALS

FEBRUARY 19, 2021

CAPITAL REGIONAL PLANNING COMMISSION
14734 S. HARRELL'S FERRY RD., STE. B
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TABLE OF CONTENTS

Section 1. RFP Timeline	2
Section 2. Introduction	3
Section 3. Background	4
Section 4. Offeror's Minimum Qualification.....	4
Section 5. Proposal Content	4
Section 6. Selection Procedure	5
Section 7. Criteria for Evaluation.....	6
Section 8. Budget.....	6
Section 9. Duration of Contract.....	6
Section 10. Proposal Submission Guidelines	6
Section 11. Schedule.....	7
Section 12. Compliance with Federal Regulations.....	7
Section 13. Scope of Work.....	7
Section 14. Attachments and Appendices	34

I. RFP TIMELINE

<u>SUBJECT:</u>	Pavement and Asset Data Collection (PADC)
<u>PURPOSE:</u>	The purpose of this RFP is to select a Consultant to collect pavement and all outlined roadway asset data within the for the Baton Rouge Metropolitan Planning Area.
<u>SCOPE OF WORK:</u>	See Specifics Under Scope of Work (Attachment A)
<u>BUDGET:</u>	The maximum consultant budget for the MTP update is a non-negotiable lump sum fee of \$1,049,225 .
<u>SCHEDULE:</u>	<ul style="list-style-type: none">• Friday, February 26, 2021 -- Release of RFP• Tuesday, March 16, 2020 -- Deadline for Questions by 5:00pm (CDT), Questions will only be accepted in writing to the attention of Sooraz Patro at spatro@crpcla.org• Thursday, March 18, 2021 – Release of Responses to Questions will be posted on the MPO’s website at www.crpcla.org as soon as possible but no later than by 5:00 p.m. (CDT)• Thursday, March 25, 2021 -- Proposals due by 4:00 PM CDT Number of Copies: Six hard copies addressed to: <div style="text-align: center;">Sooraz Patro, Director of Transportation 14734 S. Harrell’s Ferry Rd., Ste B Baton Rouge, LA 70816</div> One electronic document e-mailed to: spatro@crpcla.org• March 29 through March 31, 2021 – Selection committee review of proposals and scoring/prioritization.• Wednesday, April 21, 2021 TPC Meeting – TPC review and approval of the consultant recommendation (tentative)• Week of May 3rd, 2021 – Notice to Proceed issued (anticipated).
<u>COST LIABILITY:</u>	All costs incurred in the submission of proposals or in making necessary studies, designs, or benchmarks of estimates for the preparation of the proposals are the sole responsibility of the Consultant.

Note: *CRPC reserves the right to amend and/or change this schedule at their discretion
It is the Proposers’ responsibility to visit the Capital Region Planning Commission’s website
regularly at www.crpcla.org for any updated information on this project.*

II. Introduction

This Request for Proposals (RFP) is seeking a consulting firm for the Pavement and Asset Data Collection (PADC) hereby referred as 'the project', for the Metropolitan Planning Area of the Baton Rouge Metropolitan Planning Organization within Capital Region Planning Commission.

In general, this project requires the consultant to provide all necessary engineering, GIS, technology and related services required to collect forward facing perspective images, right facing right-of-way images, pavement images, pavement distress data and pavement management data necessary to digitally quantify the Network Level Condition of the Non-State system roadways in the CRPC MPO Parishes. The consultant will also be required to capture and deliver data, imagery and assets for a defined length of the local jurisdiction public road network not maintained by CRPC, as defined in the advertised RFP.

The Consultant will be required to convert or configure the past data collection cycle to a format that allows their proposed software solutions to access and display this data and imagery in conjunction with the data and imagery the Consultant will capture for this RFP

.
Selection for the consultant to conduct the second round of surveying will be conducted following a rigorous process that includes past cycle operations, data quality, analysis as well as interaction with the previous contractor. CRPC asset management team also conducted intensive research on top contractors in the market who have the capability of implementing pavement and roadway asset surveys with similar or comparable technology within the same time frame.

Data collection is expected to start by **May 3, 2021**. Timelines of delivery will be attached in a separate appendix as requested by CRPC.

Based upon the price listings provided from several contactors in the market, and approved by CRPC, the expected total compensation would be no more than \$1,049,225 covering max. of 4,398 miles of pavements including five parishes miles outside the MPO boundary with up to 5% (five per cent) contingency for additional miles collected by the consultant at no additional cost.

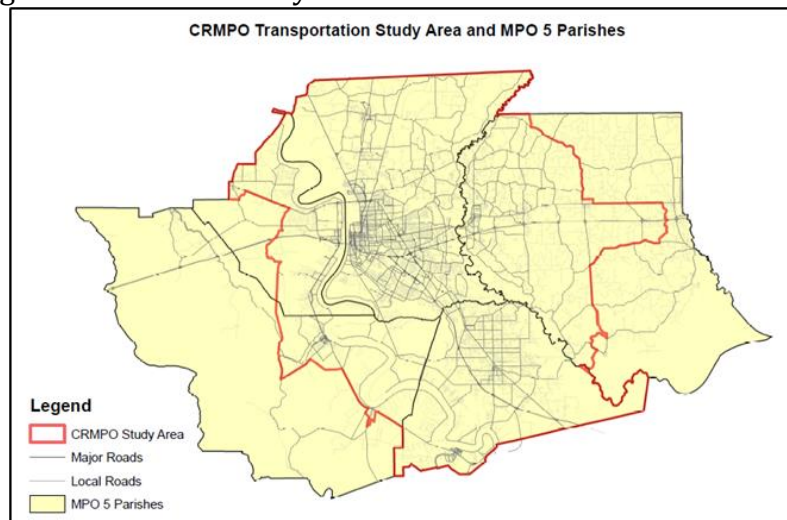
This is the second round of pavement and asset data collection and will complement the current (first round) data collected in 2016. The project will help analyze the two sets of data on a temporal scale. Also, the data will aid in future project selection and prioritization for Maintenance category of STPBG>200k funds.

III. Background

The Capital Region Metropolitan Planning Organization's (MPO) study area includes all of East Baton Rouge, Ascension parishes, Livingston, West Baton Rouge and a portion of Iberville parishes. While the current 8-Hour Ozone Nonattainment Area covers all Capital Region's Five Parishes, the existing travel demand model area lies within the boundary of five parishes.

A regional map for the boundaries of five-parish related nonattainment area and MPO transportation study area is shown below in Figure 1.

Figure 1: MPO Boundary vs. 8-Hour Ozone Nonattainment Area



IV. Offeror's Minimum Qualifications

- a. At least one principal or responsible member of the firm shall demonstrate a minimum of five years' experience in responsible charge of, or major expertise in, the field involved in this RFP.
- b. Offeror must show minimum experience of four projects of similar scope.
- c. Experience working in the development of performance measures and target setting in urban areas should be noted, if applicable to the project team.

V. Proposal Content

Proposals should contain at least the following documentation:

1. Cover Letter - This should include a summary of the key points of the proposal and the approach to accomplishing the study. The contact person's (project manager's) name, address, telephone number, and e-mail address must be included. The Attachment A is the proposer's information Form. The cover letter

is not considered part of the maximum twelve-page requirement outlined in #2 of this section.

2. **Project Methodology Section** - This should include the Consultant's approach to tasks to accomplish the work outlined in the Scope of Work. This Section should demonstrate an understanding of the regional transportation system, travel demand modeling, and Federal and State planning requirements. This section is limited to twelve pages in length and no less than an 11-point font size.
3. **Key Personnel Section** - One paragraph summaries of qualifications and experience should be submitted for all personnel assigned to the project. The assignment of personnel must specifically contain the percent of time by personnel for each task included in the Scope of Work. The key personnel section is not considered part of the maximum twelve-page requirement outlined in #2 of this section. One-page resumes for each team member shall be attached as an appendix to the RFP. Additional information or links to completed projects may also be attached to the appendix.
4. **Management Plan Section** - The management plan must contain a schedule of work (timeline) with milestones, and a percent of time by each task described in the Scope of Work for the Prime and each subconsultant. The management plan section is not considered part of the maximum twelve-page requirement outlined in #2 of this section.
5. **Related Work Section** - Work closely related to that described in the Scope of Work which has been performed by the specific personnel assigned to this project should be briefly outlined in the proposal. Specific emphasis should be placed on work undertaken in areas similar to the Capital Region metropolitan area in the previous five years. The related work section is not considered part of the maximum twelve-page requirement outlined in Study Methodology Section (#2).
6. **DBE Participation** - The consultant team should strive to adhere to the Disadvantage Business Enterprise (DBE) goal of the Capital Region Planning Commission. CRPC has adopted a DBE goal of 8%.
7. **MPO Standard Consultant Submittal Form (Attachment)** -- The respondent shall complete and submit MPO Consultant Submittal Form with the proposal. The form is available at: <http://crpcla.org/publicnotices>

VI. Selection Procedure

CRPC will form an advisory evaluation PADC Steering Committee consisting of persons individually and collectively knowledgeable in the areas of Transportation/Traffic Planning to review and rank the proposals received in accordance with the criteria of evaluation described below.

CRPC may seek additional information, conduct interviews, or request best and final offers from individual Proposers.

The evaluation committee's ranking and recommendation will be forwarded to CRPC's

Executive Director who will make a recommendation to the CR MPO Transportation Policy Committee for final action. The recommendation and award of a contract, if any, will be to the Proposer whose proposal is most advantageous to CRPC based on the evaluation criteria set forth below.

CRPC reserves the right to reject any and/or all proposals submitted or to conclude that none of the proposals are advantageous to CRPC.

VII. Criteria for Evaluation

The proposals will be evaluated based on the following criteria with relative weights in lists below:

Item	Criteria for Evaluation	Points
A	Demonstrated an overall understanding of the scope of work and the ability to meet the requirements of this RFP	30
B	Qualifications and previous related experience of key personnel to be assigned to this project including sub-contractors	25
C	Firm's previous related work experience within the past five years which includes citing previous experience in similar studies or projects	30
D	A detailed Management Plan demonstrating the ability to complete project tasks within Consultant established schedule and key milestones (must include dates)	15
	Total Possible Points	100

VIII. Budget

The maximum budget allocated to the selected consultant for the projects is a non-negotiable lump sum fee of \$1,049,225.

IX. Duration of Contract

This contract will commence on **May 3, 2021** (anticipated) and extend through **June 1, 2022**.

X. Proposal Submission Guideline

Respondents shall submit 6 bound and 1 electronic copy of the proposal to:

Capital Region Planning Commission
Attn: Mr. Sooraz Patro, Director of Transportation
14734 S. Harrell's Ferry Rd. Baton Rouge, LA 70816

The proposal must be received by 4:00pm C.S.T. on Thursday, **March 25, 2021**. Please direct any questions to Sooraz Patro, Director of Transportation via email at spatro@crpcla.org. A list of received questions and responses will be posted on our website.

CRPC will not pay for the development or submission of any proposals in response to this RFP. Furthermore, CRPC reserves the right to reject any or all proposals.

Award is contingent upon CRPC receiving final Notice to Proceed from LA DOTD.

XI. Schedule

• RFP Distribution (Website/Email)	February 23, 2021
• Advertise RFP (Newspaper)	February 26, 2021
• Deadline to RFP related Questions	March 16, 2021; 4pm CST
• Release of Responses to Questions	March 18, 2021; 5pm CST
• RFP Proposals Respondent Deadline	March 25, 2021; 4pm CST
• PDC RFP Evaluation Committee Review/Ranking	March 29 through March 31, 2021
• Consultant Team Interviews (if needed)	April 6, 2021
• TPC Review and Consultant Selection	April 21, 2021
• Notification of Selected Consultant	April 22, 2021
• Contract Begins (anticipated)	May 3, 2021
• Project Completion (anticipated)	June 1, 2022

XII. Compliance with Federal Regulations

The successful Proposer will be required to comply with, in addition to other provisions of the Request for Proposal, the conditions required by all applicable Federal and State regulations as detailed in the attachment B (Note: forms to be filled in Appendix A & B), including the following:

1. Equal Employment Opportunity - Successful Proposer will be required to comply with all applicable Equal Employment Opportunity Laws and Regulations.
2. Title VI Assurances - Successful Proposer will be required to comply with all requirements imposed by Title VI of the Civil Rights Act of 1964 (49 U.S.C. Section 2000d), the Regulations of DOT issued thereunder (49 C.F.R. part 21), and assurances by the MPO thereto.

XIII. Scope of Work

The services to be rendered for this Project shall consist of the following:

1.0 Tasks and Services

1.1 General Information

A. The Consultant shall document in their proposal if they can deliver all the requirements and deliverables identified in this RFP and how they plan to do so. This includes providing the various items and deliverables, identified in this section, which will reasonably allow CRPC to access the Consultant's ability to successfully complete this project.

B. The Consultant shall collect forward facing perspective images, right facing right-of- way images, pavement images and pavement distress data necessary to digitally quantify all the requirements specified for this project.

C. The Consultant shall document their existing (DCV) Data Collection Vehicle Inventory via the format identified in the table provided below. Listing a vehicle in this table does not compel the Consultant to use the vehicle on this project.

(DCV) Data Collection Vehicle Inventory

Vehicle ID	Vehicle Configuration Details	Owned By	Make	Model	Year

Vendor is expected to identify their complete existing vehicle inventory

Vehicle ID - contractor ID assigned to vehicle to appear in weekly, monthly, or final report

Vehicle Configuration Details - current sensor configurations or current functional capabilities /deliverables .

Vehicle Owner - identify if Lease, Rental, or Owned and by who; Vehicles that have been ordered, but not received, must be clearly marked as such in this column

Make, Model & Year of Vehicle

D. For tasks identified as “Data Collection,” the Consultant shall generally submit the raw data capture files, or data that has not been processed, forward facing perspective image, right facing right-of-way image capture, etc.

E. For tasks identified as “Data Delivery,” the Consultant shall generally submit all other processed data files, the processed pavement images, etc.

1.2 System Description

The non-system roadway network in the CRPC MPO region is not a static system and is always changing. There will be roads that are modified or new roads to serve the new residential and commercial developments in the region. The analysis lane miles are a static snapshot of the initial mileage for this Project. These mileage totals can also be affected by the addition of divided roadway sections, additional lanes, or new roadways, which subsequently become part of the data capture requirements.

Should additional miles be added or discovered within a system, that exceeds the analysis lane miles shown below, CRPC expects the Consultant to capture and deliver this additional mileage at no additional charge, so long as the total additional mileage does not exceed 5.0% (five per cent) of the total analysis miles for the contract cycle. Should the added mileage exceed the 5.0% (five per cent), CRPC reserves the right to equivalently reduce the analysis lane miles to compensate for the increased mileage in other areas, to prevent the overall cost of the Project from exceeding the funds available for this Project.

The approximate analysis lane miles of pavement included in the study are as follows:

Local Roads (1 time, 1 cycle only) **4,398 analysis lane miles**

A. For approximately 4,398 analysis lane miles on the local road system, the Consultant shall collect forward facing perspective images, right facing right-of-way images, pavement images and pavement distress data necessary to digitally quantify all of the requirements specified for this Project.

B. CRPC will require the Consultant to convert the past cycle of historical data into the format necessary to access and use this data in their proposed software solutions.

2.0 Scope of Work Elements

The scope of this Project shall cover all necessary engineering, GIS, technology and related services, including Quality Assurance and Quality Control, required to collect and analyze pavement distress data, various pavement attributes, pavement images, and forward-facing perspective and right facing right-of-way images for other asset data inventory. This data and image collection and analysis is primarily intended to provide, at a minimum, all the necessary information to access current pavement

conditions and to assist in projecting future pavement conditions in Louisiana to support both State and Federal Pavement Management as well as Asset Management requirements.

The following table provides an outline of the various Pavement Condition Measures.

**Asphalt & Composite Pavements
Pavement Condition Measures**

Asphalt Pavement Distress Types	Composite Pavement Distress Types	Units of Measure
Fatigue (Alligator) Cracking		Sq.Ft. (Wheelpath)
Longitudinal Cracking	Longitudinal Cracking	Linear Ft.
Transverse Cracking	Transverse Cracking	Linear Ft.
Patch\Patch Deterioration	Patch\Patch Deterioration	Sq. Ft. & Count
Potholes	Potholes	Sq. Ft. & Count
Rutting	Rutting	Inches
IRI	IRI	Inches / Mile
	Blowups	Sq. Ft. & Count
Fill Quantities	Fill Quantities	Cu. Ft.
High/Low Shoulder	High/Low Shoulder	Inches
Macrotexture	Macrotexture	Inches

**Jointed & Continuously Reinforced Concrete Pavements
Pavement Condition Measures**

Jointed Concrete Pavement Distress Types	Continuously Reinforced Pavement Distress Types	Units of Measure
Longitudinal Cracking	Longitudinal Cracking	Linear Ft.
Transverse Cracking	Transverse Cracking	Linear Ft.
Patch\Patch Deterioration	Patch\Patch Deterioration	Sq. Ft. & Count
Blowups	Blowups	Sq. Ft. & Count
IRI	IRI	Inches / Mile
Faulting		Inches
	Punchouts	Sq. Ft. & Count
High/Low Shoulder	High/Low Shoulder	Inches
Macrotexture	Macrotexture	Inches

These condition measures will be configured and supplied in various CRPC supplied ranges or severity levels by the Consultant.

In addition to these measures, various condition indexes will be generated from these measures and severity levels. These condition indexes would include, but are not limited to, indexes for fatigue (alligator) cracking, longitudinal cracking, transverse cracking, random cracking, rutting, roughness, patching and performance indexes.

2.1 Functional Requirements

This Project is designed to provide the necessary information to support both State and Federal Asset Management and Pavement Management requirements, quantitative data for utilization in MPO project selection process, and data driven maintenance programs by local governments. CRPC is issuing this Project to continue its ongoing efforts to obtain all relevant information necessary to meet these requirements.

Quality Control is a mandatory requirement for MAP-21 and for good use of the collected data. Under no circumstances will the Consultant be permitted to submit finalized summary data, where the raw data was not or could not be evaluated and validated by CRPC. Fully automated or black box generated final data will not be accepted.

2.2 Technical Requirements

The Consultant shall complete the “Technical Detail Response” table (see below) with sufficient details, information, data, etc. to allow CRPC to determine if their proposed 3D technology will meet the following requirements.

A. It is expected that the required 3D proposals might not be able to meet some of these requirements. In those cases, the Consultant shall note that the requirement cannot be met and indicate the actual measure that the proposed 3D solution could meet. The Consultant shall note in their response in the table, the lowest measurement that can be theoretically achieved and the lowest measure that can be practically or reasonably achieved with the 3D technology.

The Consultant is encouraged to take every opportunity to identify special or proprietary differentiating characteristics, capabilities, functionality, etc. unique to their offering, within their Technical Detail Response and within their general response. Duplication of this effort, in both the Technical Detail Response and general response, is encouraged.

B. All pavement condition measures shall be reported in the appropriate data shell per the appropriate data dictionary for that measure. The Consultant can choose to submit separate data tables for each data dictionary or can submit a single data table with appropriate filters and defined queries that allow for differentiation of the data deliveries. CRPC will have final approval and acceptance for either of these chosen delivery methods. The items that follow provide additional information relative to providing the data to populate the data dictionary tables. Refer to the data dictionary for full deliverables and details.

C. Since the Louisiana Department of Transportation and Development recently introduced a new linear referencing system, the Consultant is expected to deliver the data in both the new and the old referencing system protocols by the LADOTD for local roads to facilitate the transformation between both formats.

Technical Detail Response Table

Requirement	2D Equipment (Ust Sensors, etc.)	2D Specifications& Features (Provide All Informative Detolls)	3D Equipment (List Sensors, etc.)	3D Specifications & Features (Provide AI Informative Detolls)
Distance Measurement Instrument (DMI)		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for this technology		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for this technology
Global Positioning System (GPS)		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for this technology		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for this technology
Inertial Navigation System		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for this technology		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for this technology
		Post Process-mg software= ??		PostProcessing software= ??
		Post Process-mg software accuracies achieved are ??feet in real-time and approximately?? inches with post process-mg.		PostProcessing software accuracies achieved are ?? feet in real-time and approximately?? inches with post processing.
Forward facing perspective images, right facing right-of way images		Describe All Technical details of proposed lenses		Describe All Technical details of proposed lenses
		Describe All Technical details of proposed camera		Describe All Technical details of proposed camera
		Resolution pixels=?? X??		Resolution pixels = ?? X??
		Field of view=?? Degrees		Field of view=?? Degrees

		Free-running frame rate of?? frames per second {fps}		Free-running frame rate of?? frames per second {fps}
Longitudinal Profile		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for 2D sensor technology		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for 3D sensor technology
International Roughness Index (IRI)		Validation of low speed measurements down to= ??mph		Validation of low speed measurements down to= ??mph
		Meets all AASHTO standards and are ASTM Class 1 profilers {ASTM E-950} =Yes or No		Meets all AASHTO standards and are ASTM Class 1 profilers {ASTM E-950} =Yes or No
Pavement Images		Describe Technical details of lighting system for 2D technology		Describe Technical details of lighting system for 3D technology
		Describe Technical details of pavement image collection for 2D technology		Describe Technical details of pavement image collection for 3D technology
Distress crack Identification		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for 2D sensor technology This section could be itemized for various cracking deliverables is this provides a more robust response		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for 3D sensor technology This section could be itemized for various cracking deliverables is this provides a more robust response
Rutting		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for 2D sensor technology		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for 3D sensor technology
Faulting		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for 2D sensor technology		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for 3D sensor technology
Macrotexture		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for 2D sensor technology		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for 3D sensor technology
		Meets ASTM E1845-09 standard = Yes or No		Meets ASTM E1845-09 standard= Yes or No
Roadway Geometry		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for 2D sensor technology		Describe All Technical details, specifications, accuracies} resolutions} minimum measures} etc. for 3D technology
Skid Resistance Testing		Describe All Technical details, specifications, accuracies, resolutions, etc. for this technology		Describe All Technical details, specifications, accuracies, resolutions, etc. for this technology
		Meets all requirements of ASTM E274, ASTM E501, ASTM E524 =Yes or No		Meets all requirements of ASTM E274, ASTM E501, ASTM E524 =Yes or No

2D Equipment= itemize the sensors, devices, equipment, technology, etc. that supply the requirement
 3D Equipment= itemize the sensors, devices, equipment, technology, etc. that supply the requirement

2D Specifications & Features =provide as much detail as possible to describe data
 3D Specifications & Features =provide as much detail as possible to describe data

Forward facing & ROW cameras must be high definition, broad cast quality, 3 CCD cameras

For 3D detail, describe your ability to narrow the sensor to a smaller size, such as wheel path width for Faulting & Macrotexture

1. Pavement Distress Cracking

a. The Consultant shall provide details for all aspects of cracking data collection and reporting.

b. The Consultant shall conform to the Louisiana Distress Identification Protocols, or later versions, is required.

c. The Consultant shall explain in detail, the differences between 2D and 3D technology with respect to Distress Cracking data capture, in the “Technical Detail Response” table above.

d. The Consultant shall identify if and when the proposed technology can identify cracks of 0.04 inch (1 mm) width per the proposed MAP-21 Notice of Proposed Rules. The Consultant shall identify the lowest theoretical measure possible, and the lowest measure that can be practically or reasonably achieved, with the final selected 3D technology.

e. All distresses, and calculated indexes, shall be evaluated and reported in tenth (0.100) mile increments.

f. The Consultant shall provide data as defined in the Louisiana Distress Identification Protocols.

- g.** The Consultant shall report condition data for all analysis lane miles described in the section “System Description”.
- h.** The Consultant shall report all condition data by Control Section logmile, LRS-ID logmile and GPS coordinates.
- i.** Visual distress identification and quantification in real time from the DCV will not be allowed.

2. Roughness – (IRI) International Roughness Index

- a.** The Consultant shall provide details for all aspects of IRI data collection and reporting.
- b.** The Consultant shall identify the lowest allowable speed at which their DCV can accurately capture valid IRI measurements within this SOP.
- c.** Conformance to the ASTM E950-09 Standard Test Method for Measuring the Longitudinal Profile of Traveled Surfaces with an Accelerometer Established Inertial Profiling Reference, or its latest version, is expected.
- d.** Conformance to the AASHTO R43-13 Standard Practice for Quantifying Roughness of Pavements, or its latest version, is expected.
- e.** The longitudinal profile of a pavement surfaces, shall be captured in both wheel paths, for 100% of all Analysis Lane Miles. Roughness data shall be acquired using a Class II laser type profiler supplied and calibrated using the Quarter Car Simulation approach via 3D technology.
- f.** International Roughness Index (IRI) shall be reported in units of inches/mile.
- g.** The Consultant shall explain in detail, the differences between 2D and 3D technology with respect to Roughness data capture, in the “Technical Detail Response” table above.
- h.** For QA/QC purposes, IRI values will be summarized in section lengths of 0.004 miles (21.12 feet) in the Electronic Data Files.
- i.** In addition, longitudinal profile data should be stored in Raw Data Files for every one (1) inch of pavement, while the computed IRI values shall be summarized and retained for every four (4) inches of pavement in the left wheel path and the right wheel paths, along with the standard deviations of the left and right wheel paths. These values shall be made available to CRPC for further review via the Software Data Processing & Management Tool.
- j.** For Reporting purposes, computed IRI values shall be averaged and reported for each tenth (0.100) mile segment (528 feet) for both the left and right wheel paths in the Summary Data File. These reports shall include an average IRI for the tenth (0.100) mile segment.

3. Faulting

- a.** The Consultant shall submit provide details for all aspects of Faulting data collection and reporting.
- b.** The Consultant is expected to exceed the requirements of the AASHTO R36-13 Evaluating Faulting of Jointed Concrete Pavements (JCP) as defined below.
- c.** The Consultant shall explain in detail, the differences between 2D and 3D technology with

respect to Faulting data capture, in the “Technical Detail Response” table above.

d. The Consultant shall be required to capture and deliver faulting data, longitudinally, in the right wheel path only, for 100% of the analysis lanes on all jointed concrete pavements.

1. The Consultant must be able to synchronize the pavement image with the data, and then identify the actual location of all construction joints for the jointed concrete pavement via pavement images. Real time fault data capture and reporting will not be acceptable. The Consultant will not be allowed to solely establish joint detection or location via algorithms such as ProVal or via a pre- defined nominal joint spacing variable such as 20 foot spacing.

2. Joint location can be programmatically determined, but the final actual joint locations must be manually validated, prior to determine faulting values.

e. The Consultant shall then post process the faulting data to determine the value of all faults at these actual defined joints, using no minimum faulting threshold.

f. Faulting depth data will be captured and reported to the nearest 0.04 inch (1 mm), or to the lowest measure that can be practically or reasonably achieved with the final selected 3D technology.

g. Where the "approach" slab is higher than the "departure" slab, faulting will be reported as a positive (+) fault. Where the "approach" slab is lower than the "departure" slab, faulting will be reported as a negative (-) fault.

h. The average faulting for each tenth (0.100) mile increment (528 feet) will be calculated using the absolute value of all fault measures, including fault measures of (0.0 inch) values and using the actual number of manually identified joints.

i. For QA/QC purposes, post process generated faulting values, using no minimum fault threshold, shall be provide in a separate table in the Electronic Data Files at each defined joint.

1. Also the location of each defined joint shall be provided to the nearest thousandth (0.001) of a mile (5.28 feet), control section logmile, LRS-ID logmile, and GPS coordinates.

2. The defined joint locations shall also be identified via some type of colored marking, on the submitted pavement images supplying the pavement distress data for QA/QC.

j. For reporting purposes, the maximum positive fault, maximum negative fault, the computed average faulting, and the number of identified joints for each tenth (0.100) mile increment (528 feet) shall be reported in the Summary Data File. This reporting data shall be compiled from the faults derived using defined joints using no minimum fault threshold.

4. Rutting

a. The Consultant shall provide details for all aspects of rutting data collection and reporting. Fill quantities and high/low shoulder data collection and reporting will be required and require an SOP. These items will, as determined by the Consultant, be included in the Rutting SOP or they will have their own SOP.

b. Conformance to the AASHTO PP 38-00 (2006) Standard Practice for Determining Maximum Rut Depth in Asphalt Pavements, or later version, is expected.

c. Rutting depth shall be captured and reported in units of inches, to the nearest 0.04 of an inch (1 mm), or to the lowest measure that can be practically or reasonably achieved with 3D technology.

d. The Consultant shall explain in detail, the differences between 2D and 3D technology with respect to Rutting data capture, in the “Technical Detail Response” table above.

e. For QA/QC purposes, computed rutting data shall be summarized in section lengths of 0.004 miles (21.12 feet) in the Electronic Data Files, for the left wheel path and the right wheel paths.

1. Rutting **shall NOT** be identified on the submitted pavement images supplying the pavement distress data for QA/QC.

f. For reporting purposes, the average rut depth shall be reported for each tenth (0.100) mile increment in the Summary Data File.

1. The maximum rut depth for each tenth (0.100) mile increment shall also be reported.

2. The count of rut depth measures, identified at each 0.004 miles (21.12 feet) measure, that exceed 0.40 inches, summarized for each tenth (0.100) mile increment shall be reported.

3. **Fill Quantities** shall be calculated and reported to identify the volume of asphalt necessary to fill ruts for each tenth (0.100) mile increment. These fill quantities shall be reported in cubic feet.

5. High/Low Shoulders

a. The Consultant shall capture the elevation difference between the right-side shoulder and pavement edge, regardless of the shoulder type. This value will be measured in units of inches, to the nearest 0.04 of an inch (1 mm), or to the lowest measure that can be practically or reasonably achieved with 3D technology.

1. Where the "shoulder" is higher than the "pavement edge", the value will be reported as a positive (+) value. Where the "shoulder" is lower than the "pavement edge", the value will be reported as a negative (-) value.

b. For QA/QC purposes, high/low shoulder data shall be summarized in section lengths of 0.004 miles (21.12 feet) in the Electronic Data Files.

c. For reporting purposes, the high/low shoulders shall be averaged and reported for each tenth (0.100) mile increment in the Summary Data File.

1. The number of high shoulders exceeding (2) two inches, for each tenth (0.100) mile increment shall also be reported in the Summary Data File.

2. The number of low shoulders exceeding (-2) negative two inches, for each tenth (0.100) mile increment, shall also be reported in the Summary Data File.

6. Macrotexture

a. The Consultant shall provide details for all aspects of Macrotexture data collection and reporting.

1. The Consultant shall explain in detail, the differences between 2D and 3D technology with respect to Macrotexture data capture, in the “Technical Detail Response” table.

2. CRPC only intends to use this data to provide appropriate information for Friction calculations. So, 3D capabilities must demonstrate, if possible, how the data can be supplied for the area represented by the right wheel path.

3. CRPC does not capture bleeding or raveling, so other Macrotexture capture capabilities of 3D technology will not be required at this time. This information should still be presented in the appropriate area of the “Technical Detail Response” table.

b. Conformance to the ASTM E1845-15 Standard Practice for Calculating Pavement Macrotexture Mean Profile Depth, or later version, is expected.

c. The Consultant shall provide the Mean Profile Depth, the Root Mean Square and the Percentage of Valid Samples, for the right wheel path, for 100% of all pavements.

d. The sampling frequency shall comply with the ASTM E1845-15 specification.

e. The Percentage of Valid Samples, as defined by ASTM E1845-15, must remain above 90% or the data shall be recollected.

f. The Mean Profile Depth and Root Mean Square shall be identified in units of inches to four (4) decimals.

g. For QA/QC purposes, macrotexture data shall be summarized in section lengths of 0.004 miles (21.12 feet) in the Electronic Data File.

h. For reporting purposes, RMS, MPD & Percentage of Valid Samples shall be reported for each tenth (0.100) mile increment in the Summary Data File.

7. Vertical Curve Classification

Only for new local roads that have not been collected in the last cycle:

a. The Consultant shall provide details for all aspects of Vertical Curve data collection and reporting.

b. Vertical Curve classifications shall be captured and the following table for all pavement sections.

c. For QA/QC and Reporting purposes, the Consultant shall report the various vertical curve classification data in a Vertical Curve data table, with the data as identified in the “Vertical Curve” Data Dictionary, summarized to tenth (0.100) mile increments.

8. Roughness Testing

Since roughness data and measurement during the first cycle were completely inaccurate, additional roughness testing would be required to guarantee data reliability.

- a.** The Consultant shall provide details for all aspects of Roughness Testing data collection and reporting.
- b.** The roughness testing measuring system shall consist of a *profilograph*, or any other comparable device, equipped with a data collection computer.
- c.** The data collected shall include roughness values obtained according to the ASTM E1274, the *Standard Test Method for Measuring Pavement Roughness Using a Profilograph*.

2.3 Project Requirements

A. Quality Control Plan

The Consultant shall submit a Quality Control Plan that provides extensive details of their quality control methods, procedures, and protocols. The QC Plan shall be integrated with the required SOPs, and their requirements, identified in this Project. This QC Plan will require the Consultant to assure that data is collected accurately, and that data quantification reflects actual pavement condition, within the requirements in this Project. The Consultant's personnel shall work with CRPC to analyze and review the data and immediately reschedule data/image capture for any section found to be invalid.

The Consultant shall, for Project evaluation purposes, submit with their QC Plan, samples of monthly reports that comply with the reporting requirements of this Project. Multiple samples of each report can be submitted if the Consultant feels this is necessary to convey their ability to comply with the reporting requirements outlined in this Project.

CRPC expects the Consultant to fully cooperate with CRPC with respect to the QC plan. This implies that the necessary efforts by the Consultant to repair, recapture, or in some manner correct all issues that arise, in a mutually agreed upon solution, will occur. CRPC reserves the right to require additional procedures, methods, protocols, data items, reporting measures or any reasonably appropriate modifications to the Consultant's QC plan when issues arise that could jeopardize successful capture and delivery of these Project requirements. In addition to the QA/QC requirements identified throughout this Project, the QC plan shall also address, but is not limited to, the following items.

1. Equipment Calibrations & Camera Maintenance

- a.** All equipment calibrations and camera maintenance are to be performed in accordance with specific manufacturer recommendations.
- b.** Equipment calibrations refer to anything that requires proper/regular calibration to ensure that it is in proper working order and will produce expected, acceptable results.
- c.** A regular maintenance and testing program of the equipment and cameras, in accordance with the manufacturer's recommendations, shall be performed and documented by the Consultant.
- d.** CRPC will use LADOTD's Primary Baseline calibration sites. Prior to being authorized by CRPC to collect data, the Consultant's Data Collection Vehicle (DCV) will be calibrated to a Primary Baseline calibration site. Data acquisition and data evaluation will be performed at

least three times on each pavement calibration section to allow for the calibration of electronic sensor data. Such calibration must be maintained for the duration of subsequent data collection. The electronic sensor data will be evaluated for accuracy, under CRPC supervision, as appropriate for the equipment.

e. Calibrations will be repeated as needed, or as defined further in following sections.

f. All calibrations procedures performed during this Project, along with the recorded calibration data, are to be documented (i.e., results from tests are recorded and any corrective action taken shall be explained in detail) and reported to CRPC on a monthly basis.

g. The Consultant's Final Report shall also document the calibration procedures, the calibration data that was collected and any corrective action taken and explained in detail.

h. DCVs that leave the State, require repairs, to either the vehicle or data collection equipment, or are out of service for an extended period of time, must be recalibrated on the CRPC approved Primary Baseline calibration sites.

i. DCVs must be recalibrated at least once per month at CRPC approved Primary Baseline calibration sites, or as directed by CRPC.

2. Quality Control Verification Sites

a. The Consultant shall calibrate all DCV's on the CRPC baseline Primary Baseline calibration sites prior to a DCV collecting any data and also just prior to establishing a (DQCVS) Parish Quality Control Verification Sites in a parish.

b. During the first week of data collection in each new parish, a DQCVS shall be established by the Consultant on a Control Section. The Consultant shall establish a DQCVS with known IRI and Rutting or Faulting values. Separate DQCVS sites are required for each parish.

c. For subsequent ongoing data collection within a particular parish, the DQCVS will be run weekly by each DCV and compared with the original data collected for that section. The Consultant will evaluate these measurements to determine the accuracy of field measurements and to identify needed equipment recalibrations at the Primary Baseline calibration sites.

d. All weekly DQCVS data collection shall be documented in writing and electronically (digital images with electronic sensor data) and both shall be delivered to CRPC in monthly reports.

3. Distance Measuring Instrument

a. The Consultant shall calibrate the DMI (Distance Measuring Instrument) using Primary Baseline calibration sites provided by CRPC.

b. The Consultant must provide all findings, inclusive of the calibration number before the calibration process, the calibration number after the calibration process, location of the calibration site, CRPC provided length of the calibration site, and length of calibration site as measured by the DMI before and after calibration, and list any discrepancies found during the calibration process.

c. The calibration of the DMI shall be reported monthly to CRPC. The report shall include any

discrepancies that are found, the corrective action taken, and a detailed explanation of the matter.

d. The Consultant's Final Report shall also document DMI calibration details.

4. Inertial Navigation System, LRS, GIS

a. The QC Plan shall define the quality assurance methods and procedures in place to ensure that both geo-referenced, and location referenced, data and images are located within proposed precision and accuracies.

1. The Consultant shall reference the Louisiana Transportation Research Center's Final Report 539 "CRPC Standards for GPS Data Collection Accuracy" found at https://www.ltrc.lsu.edu/pdf/2015/FR_539.pdf

b. The Consultant shall report monthly all calibration details and efforts to ensure accurate coordinates and location reference is occurring.

5. Manual Distress Rater and Review of Automated Distress Ratings

a. The QC Plan shall include the requirements outlined in this section.

b. When manual rating of various pavement distresses/conditions are provided, or when distress rating review of automated distress identifications are provided, the Consultant shall provide a data quantification rating/review process which will include a rater training plan and ongoing rater consistency testing for the data quantification or review.

c. The data quantification rating/review process shall assure rater accuracy and consistency, throughout the state, over the Project duration for the distresses being rated.

1. For manual rating, the data collection and quantification process should be applied in the same manner by all raters using the process. The plan must address the methods to demonstrate and monitor rater consistency throughout the entire data collection and quantification process.

2. For review of automated rating, the plan must address how consistency is provided via the methods and procedures in place to validate automated ratings by reviewers.

d. The Consultant will be required to have a unique identification of both their DCV's and their raters, so as to facilitate comparison and to aid in the determination of the consistency of both.

e. The data quantification rating process must be approved by CRPC prior to implementation.

f. The Consultant shall provide monthly reports of the results of the data quantification rating process, for the duration of the Project, and summarized the test results in the final report.

6. Forward Facing Perspective and Right Facing Right-of-way Image Capture

a. The QC Plan shall define the quality assurance methods and procedures in place to ensure appropriate image capture.

b. The Consultant will document the following in monthly reports.

Daily validation of clean enclosures and/or camera lenses for Forward-Facing Perspective and

Right Facing Right-of-way Cameras.

7. Pavement Data and Image Capture

- a.** The QC Plan shall define the quality assurance methods and procedures in place to ensure appropriate pavement data and pavement image capture.
- b.** The Consultant will document daily validation of functioning sensors and pavement imaging cameras in the monthly reports.
- c.** The pavement view camera image will be measured and verified by using the Consultant's crack detection/measurement system to determine the actual footprint (width) of the image for each Data Collection Vehicle prior to data collection. That footprint image must be maintained for the duration of the contract. The Consultant will be required to verify daily that the DCV(s) footprint is the same as the previous day. Such verification shall be documented (i.e., results from tests are recorded and any corrective action taken explained in detail) and reported in monthly reports.

These items will also be included as an appendix in the final report.

2.4 Deliverables

2.4.1 Preliminary Activities & Initial Pilot

A. Consultant Responsibilities

- 1.** Following the Notice to Proceed, the Consultant shall attend meetings and discussions with CRPC personnel to finalize the deliverables, methods, technical requirements, procedures, and guidelines for the Project.
- 2.** The Consultant in conjunction with CRPC will develop and finalize the invoicing and Project delivery schedule.
- 3.** The Consultant may be required to recollect and report certain data already collected via the Field Trial if technical or procedural changes are required.
- 4.** The Consultant shall perform calibration test for the proposed DCVs; shall initiate and test the Quality Assurance and Quality Control Program; and shall begin to calibrate raters and or rating schemes for automated crack detection software in identifying typical highway pavement types and distress classifications.
- 5.** For calibration testing, the Consultant shall be responsible for all traffic control as per the U.S. Department of Transportation - Manual of Uniform Traffic Control Devices for Streets and Highways (MUTCD) and safety related procedures for the mutual protection of the Consultant's personnel, CRPC employees, and the public. The Consultant shall provide a seat for CRPC staff in the Data Collection Vehicle(s). The occupants and DCV(s) must comply with all Louisiana statutes that regulate vehicle operation (i.e. seat belts, insurance, driver's license, operational permits, oversized vehicle permits, speed limits, etc.).
- 6.** The Consultant shall provide initial training for all proposed software for up to six (6) CRPC employees. Additional training is noted with the software requirements.
- 7.** The Consultant shall participate in a small Pilot Project to finalize and gain acceptance of

methods, procedures, deliverables, reporting, etc. that will be used for the remainder of the project. This Pilot Project will include roadway systems in some tasks of this project so that upon completion acceptance by CRPC, the pilot deliverables will complete some percentage of those tasks and as such would be billable. The Consultant is also encouraged to complete the Pilot as quickly as possible to provide time for other tasks. CRPC reserves the option to request a Pilot Project at the start of each full cycle.

B. CRPC Responsibilities

1. Identification of roadways for the calibration test and the types of data to be collected for each type of roadway.
2. Identification of roadways for the Pilot Project.
3. Provide various data delivery formats, tables, databases, etc.
4. Provide the updated Louisiana Distress Identification Protocols.
5. Finalize the maximum and minimum values, where appropriate for various distress items, during “Task 1: Preliminary Activities & Initial Pilot”.
6. CRPC will review with the Consultant the CRPC’s Location Reference System, Inertial Navigation System, and Geographic Information System.

C. Consultant Deliverables

The Consultant's deliverables for Task 1 will include:

1. The Quality Assurance and Quality Control Program that is documented and published by the Consultant. This document will be presented to CRPC for review and approval prior proceeding with further Tasks.
2. Final or updated installation of all appropriate software solutions.
3. A copy of the processed data results of the calibration test runs.
4. Test loading of processed pavement condition data into the CRPC’s dTIMS® (Deighton Solution) import database.
5. An updated Master Schedule plan for the data collection and quantification of the field condition data.
6. Forward facing perspective images and right facing right-of-way images, with “Header Information,” as specified in this Project.
7. Pavement images with distress identification markings, joint locations, etc.
8. Electronic Data Files, with all appropriate QA/QC data, as identified in this Project.
9. Summary Data Files, with all appropriate summary data, as identified in this Project.
10. The software viewing tool, the software data processing and management tool, the software asset inventory capture tool and appropriate training.

11. Confirmation of data and image synchronization, and location verification, via the software above.

12. Monthly Reports, detailing the results of calibration sites, Rater calibration, results of data test load, sensor calibrations, inertial navigation data, etc. including all monthly reporting requirements outlined in this project.

13. All data and image files will be submitted on external hard drives (USB 2.0) or on other pre-approved storage media.

2.4.2 Data & Image Collection

A. Consultant's Responsibilities

1. Meet all technical requirements outlined in this project, Supporting Documents and Data Dictionaries required to meet the deliverables of these Task.

2. Collect all appropriate data for the pavement condition assessment requirements of the Project.

3. Collect clear, digital forward-facing perspective images, right facing right-of-way images, pavement images for all pavements.

4. Report the locations of all construction zones and or other route deviations.

B. CRPC's Responsibilities

1. Identify roadways to be studied and the types of data to be collected for each type of roadway.

2. Supply the Consultant with copies of the Department's control section database file, and parish control section base map; Listing of GPS coordinates for start and end of each control section.

3. Supply electronic copies of the roadways base maps and databases.

4. Supply at least one CRPC representative to assist in the navigation on local roads when deemed necessary by CRPC.

5. Determine when conditions are acceptable for data collection, either by being in the Consultant's DCV or by a review of the digital images afterward.

6. Determine when images are acceptable, via a bi-weekly CRPC review of submitted images.

C. General Requirements

1. All data is to be collected via the "from" location descriptions and the "to" location descriptions in the CRPC Location Referencing System and the GIS base map.

2. All data will be collected with respect to the requirements of this Project in conjunction with Louisiana Distress Identification Protocols.

3. All data shall be collected in the right lane of the ascending direction of Control Section log mile on undivided two, three, and four lane roads and from the right lane in each direction on divided roads with four or more lanes. Additionally, there will be a limited number of two-lane

roadways that will be run in both directions. The DCV shall begin collection of digital images not less than a tenth (0.100) mile before the beginning of each control section and shall stop collection of digital images not less than a tenth (0.100) mile past the end of the control section.

4. The Consultant shall report when construction zones, bridges, lane deviations, and railroad crossings occur, or are encountered, during data collection.

A. Data from construction zones, bridges, lane deviations and any diversions from the correct travel lane shall not be used in calculating one-tenth mile averages and other statistics but shall be reported in the Raw Data File.

B. Consultant shall report when construction zones are encountered within the tenth (0.100) mile segments.

C. Consultant shall report when bridges are encountered and identify the number of bridges within the tenth (0.100) mile segments.

D. Consultant shall report when railroad crossings are encountered and identify the number of railroad crossings within the tenth (0.100) mile segments.

E. Consultant shall report when lane deviations occur and identify when they occur in the tenth (0.100) mile segments.

5. The Consultant field staff shall have the capability of monitoring data collection in real time in the DCV to minimize data errors.

6. The Consultant shall demonstrate that all DCV's are calibrated to produce measurement differences (IRI, rutting and faulting data) of 5% or less between vehicles.

7. The Consultant must notify the CRPC whenever the DCV first enters any parish, reenters a parish after an absence of a week or more, or returns to the Project after leaving the state. CRPC uses these notifications to advise parish administrators, as a professional courtesy, of the presence of the Consultant in their parish.

8. Vehicles must be identified with a unique number and that number must accompany all data reported from that vehicle.

9. CRPC will provide pavement type for reference (i.e., asphalt, composite, and jointed concrete) information for all on-system routes. The Consultant shall present a methodology for validating this pave type information prior to, or during, data distress quantification. Before any distress quantification is done, the Consultant needs to be certain what the pave type is so as to quantify the correct distress types.

D. Deliverables

1. The Consultant shall furnish the images to CRPC on external hard drives (USB 2.0) or on other pre-approved storage media, on a bi-weekly basis. The bi-weekly delivery shall be accompanied by all required files need for viewing the images with the software to enable the automatic retrieval of a specific segment of road, viewing of its image, image clarity (i.e. darkness, extreme sun, light rain or standing water or other debris in roadway). Locations with unacceptable image quality shall be collected again at no additional cost to the department.

2. The Consultant shall deliver bi-weekly Raw Data Files containing the DCV's electronic sensors (rutting, IRI, faulting, GPS data, etc.).

3. All daily/weekly equipment calibrations test results (i.e. DMI, Laser Profiler, video footprint, etc.) submitted on a monthly basis.
4. All daily/weekly electronic sensor verification results (i.e. re-run of sections that had been run the previous Monday to determine that the DCV is still in calibration) submitted on a monthly basis.

2.4.3 Distress Data Analysis & Delivery

A. Consultant's Responsibilities

1. Meet all technical requirements outlined in this Project, Supporting Documents and Data Dictionaries required to meet the deliverables of these Task.
2. Perform data analysis, quantify distresses, generate index data.
3. Evaluate and report pavement distresses on 0.100-mile increments.
4. Supply data for each LRS_IDs in CRPC's Location Reference System
5. Submit clear, digital pavement images, forward facing perspective images, and right facing right-of-way images for all pavements.

B. CRPC's Responsibilities

1. Provide to the Consultant the Louisiana Distress Identification Protocols.
2. Supply at least one CRPC representative to review distress quantification and assist the Consultant's personnel in the coordination of the Quality Assurance and Quality Control Program.

C. General Requirements

1. Reporting Increments: All distresses shall be evaluated and reported on tenth mile (0.100) increments. CRPC will provide, and the Consultant shall use, the Louisiana Distress Identification Protocols. The Consultant shall report condition data for all the approximately 4,398 analysis lane miles, which are to be reported per the Location Reference System.
2. As previously required in "Quality Assurance and Quality Control Program", the CRPC shall test and verify (as part of the Quality Assurance and Quality Control Program) the consistency of several quantified processed data. Such verification by the department may result in the Consultant being notified to resolve problems with the quantified distress data.
3. The Consultant shall deliver all data/images, on external hard drives (USB 2.0) or CRPC approved storage media, to CRPC.
4. The Consultant shall quantify and summarize distresses and report those quantified distresses (along with the rutting, roughness, faulting, and GPS data) as outlined in the Deliverables. The Consultant shall load into the CRPC's dTIMS® import database and query for errors before delivery. The dTIMS® import database containing the summarized parish data is to be delivered by the Consultant's personnel who are responsible for preparing and loading the summarized data for the dTIMS® import database. The Consultant's personnel shall assist CRPC in the review of the data and immediately reschedule for testing any section

found to be invalid.

D. Deliverables

1. All quantified pavement condition assessment data properly loaded into the dTIMS® import database (provided to the Consultant during Task 1 Preliminary activities) and reported in tenth (0.100) mile increments as required.
2. All data/images are to be delivered on external hard drives (USB 2.0) or on other pre-approved storage media.
3. Electronic Data Files/Tables containing all relevant requirements outlined in this Project.
4. Summary Data Files/Tables containing all relevant requirements outlined in this Project.
5. Image Location Data Files/Tables containing all relevant location information and image file storage location.
6. All asset inventory location files to allow asset measuring in the Asset Inventory Software tool.
7. Raw Data Files containing the DCV's electronic sensors (rutting, IRI, faulting, pavement distress, GPS data, etc.) shall also be included within this deliverable, in addition to the Electronic Data Files.
8. As a final delivery, the Consultant shall supply for each parish, all approved forward facing perspective images and right facing right-of-way images accompanied by all approved associated files and databases with supporting files for that parish.
 - a. This delivery shall be on an approved storage media (server) that shall have the ability to connect to the CRPC network via an Ethernet connection with its own IP address.
 - b. The server for each of the 9 parish deliverables shall be formatted properly to enable the access of this media by the software provide via this Project.
 - c. These servers will be CRPC's property after the completion of the Project.
 - d. These deliveries must be completed by **May 21, 2022.**

2.4.4 Image Collection & Image Delivery

A. Consultant's Responsibilities

1. Meet all technical requirements outlined in this Project, Supporting Documents and Data Dictionaries required to meet the deliverables of these Task.
2. Collect clear, digital forward-facing perspective images and right facing right-of-way images for all pavements.
3. Report the locations of all construction zones and or other route deviations.

B. CRPC's Responsibilities

1. Identify roadways to be studied.
2. Supply the Consultant with copies of the Louisiana Department of Transportation and Development control section database file, and parish control section base map; Listing of GPS coordinates for start and end of each control section.
3. Supply electronic copies of the roadways base maps and databases.
4. Supply at least one CRPC representative to assist in the navigation on local roads when deemed necessary by CRPC.
5. Determine when conditions are acceptable for data collection, either by being in the Consultant's DCV or by a review of the digital images afterward.
6. Determine when images are acceptable, by a bi-weekly CRPC review of submitted images.

C. General Requirements

1. All images are to be collected with respect to the CRPC's Location Referencing System.
2. All images shall be collected in the right lane of the secondary direction of Control Section.
3. Images from construction zones, detours and other diversions from the correct travel lane shall still be submitted. The Consultant shall report the locations of construction zones encountered.
4. The Consultant shall demonstrate that all DCV's are calibrated to generate proper location measurements per the DCV calibration requirements. This must be documented and reported in writing, in the monthly reports, to the CRPC. Vehicles must be identified with a unique number and that number must accompany all data reported from that vehicle.

D. Deliverables

1. The Consultant shall furnish the JPEG images to CRPC on external hard drives (USB 2.0) or on other pre-approved storage media, on a bi-weekly basis.
2. Images will initially be submitted without "Header Information". Upon QA/QC and acceptance testing approval, the Consultant will resubmit the final images with appropriate "Header Information" applied.
3. The bi-weekly delivery shall be accompanied by all required files need for viewing the images within the software, to enable the automatic retrieval of a specific segment of road, viewing of its image, allow verification of location, and image clarity (i.e. darkness, extreme sun light rain or standing water or other debris in roadway). Locations with unacceptable image quality shall be collected again at no additional cost to the department.
4. All weekly equipment calibrations test results (i.e. DMI, camera angles, video footprint, etc.) submitted on a monthly basis.
5. All weekly electronic sensor verification results (i.e. re-run of sections that had been run the previous Monday to determine that the DCV is still in calibration) submitted on a monthly basis.

2.4.5 Final Documentation

The Consultant shall provide the following final documentation by **June 1, 2022**.

- A.** A final delivery of all quantified data (i.e. previously delivered parish data inclusive of any subsequent required revisions) for all parishes, on external hard drives (USB 2.0) or on other pre-approved storage media.
- B.** Final copies of all Raw Data Files, Electronic Data Files, and Summary Data Files generated during the course of the project with the appropriate software to access, review, view, etc. these files.
- C.** CRPC shall be the owner of all data and images delivered for this Project and the Consultant shall not be allowed to subsequently charge or make money for this data and images.
- D.** Copies of all reports, routing sheets, field notes, documents relating to or impacting the Project, etc.
- E.** All reports shall be delivered in hard copy format and in electronic format (Word 2010) (.docx) on external hard drives (USB 2.0) or on other pre-approved storage media.

2.4.6 Historical Data Conversion

The Consultant will be required to convert or configure the past collection cycle, including images, to a format that allows their proposed software solutions to access and display this data and imagery in conjunction with the data and imagery they will capture for this Project.

A. Consultant's Responsibilities

- 1.** Meet all technical requirements outlined in this Project, Supporting Documents and Data Dictionaries required to meet the deliverables of this Task.
- 2.** Convert data collection cycle of data and images.
- 3.** Demonstrate converted data in Consultant's software.
- 4.** Support, Updates, Corrections, etc. for this data, and data conversion, should subsequent errors, omissions, or mistakes, on the part of the Consultant, be determined as full use of this data, and software, is expanded by CRPC.

B. CRPC's Responsibilities

- 1.** Provide previous data cycle to the Consultant

C. General Requirements

- 1.** Only the necessary data format shall be affected.
- 2.** The data integrity shall not be compromised in any way to accomplish this Task. The data shall retain its original value, meaning, purpose and usefulness.

D. Deliverables

1. Converted data, or data tables, installed in the various software solutions provided by the Consultant.
2. Any data tables, configuration tables, etc. necessary to provide access to the data.
3. Converted images to display in the software solutions synchronized with the converted data.

2.4.7 Local Road Data Collection

Forward facing perspective images and right facing right-of-way images shall be collected for a portion of the local jurisdiction public road network which shall be identified by CRPC. This one time Task shall encompass approximately 4,398 analysis lane miles.

A. Consultant's Responsibilities

1. Meet all technical requirements outlined in this Project, Supporting Documents and Data Dictionaries required to meet the deliverables of this Task.
2. Collect GPS data and location information on all defined local jurisdiction public roadways.
3. Collect clear, digital perspective view and right view camera images for all of the studied roads.
4. Report the locations of all construction zones and or other route deviations where no data collection was therefore possible.
5. Identify "roads" that cannot be determined as either "Public" or "Private" to CRPC for further review to make a final determination while the DCV is in the area. This shall save time and be more productive.

B. CRPC's Responsibilities

1. Supply at least one CRPC contact representative to assist in the navigation on the local jurisdiction public roadways when deemed necessary by CRPC.
2. Determine when conditions and images are acceptable, via a review of the bi-weekly image submittals.
3. CRPC shall provide the Consultant with a "blank" Esri file geo-database feature schema for each of the road feature collections.
3. CRPC shall provide that various Data Dictionaries for this Task.
5. CRPC shall supply a file geo-database of the current public roadways that CRPC is aware of. This geo-database is NOT meant to be an authoritative, nor complete source of all roads to be collected, but only to provide reference in assisting collection.
6. Supply Local Road Decision Tree.

C. General Requirements

1. The Consultant shall collect forward facing perspective images and right facing right-of-

way images in the right lane of both directions of each LRS identified by LRS-ID whether two-way or divided.

2. The DCV shall begin a lead-in collection of digital images prior to the beginning of each LRS-ID and shall stop after a lead-out collection of digital images past the end of the LRS-ID to ensure the proper starting and stopping locations are captured. This will be used for QA/QC and acceptance testing.

a. Asset and attribute data capture will only be performed on the Lead-in and Lead-outs sections if the start or stop of a roadway is adjusted, by CRPC, to correctly define their locations.

3. The Consultant shall demonstrate that all DCV's are calibrated to generate proper location measurements per the DCV calibration requirements. This must be documented and reported in writing, in the monthly reports, to the CRPC. Vehicles must be identified with a unique number and that number must accompany all data reported from that vehicle.

4. Images from construction zones, detours and other diversions from the analysis lane shall still be submitted.

a. The Consultant shall report the locations of construction zones encountered.

b. Data from construction zones, detours and other diversions from the analysis lane shall not be used in calculating or reporting data but shall be reported in the database.

5. The Consultant shall abide by the CRPC Local Road Inventory Collection Manual.

6. The Consultant shall use the procedures documented in the Local Road Decision Tree to make determination of whether a roadway is "Private."

a. The justification for the determination of "Private" shall be in the appropriate data dictionary record.

b. The Consultant shall collect and provide digital images for CRPC to review and approve the designation of "Private". These digital images could include gates, signs, etc. or could be documented notification of a verbal statement from owner including the owner's name if available.

7. The Consultant shall work with the CRPC Geographic Unit to address any issues with existing or missing LRS_IDs.

8. The Consultant shall count all bridges and quantify the totals by tenth (0.100) mile segments.

D. Deliverables

1. The Consultant shall furnish the JPEG images and data to CRPC on external hard drives (USB 2.0) or on other pre-approved storage media, on a bi-weekly basis.

2. The bi-weekly delivery shall be accompanied by all required files need for viewing the images within the software, to enable the automatic retrieval of a specific segment of road, viewing of its image, allow verification of location, and image clarity (i.e. darkness, extreme sun light rain or standing water or other debris in roadway). Locations with unacceptable image quality shall be collected again at no additional cost to the department.

3. Raw Data Files containing the raw data from the DCV's electronic sensors (GPS data) shall also be included within this deliverable.
4. Confirmation of data and image synchronization, and location verification, via the software viewing tool.
5. All weekly equipment calibrations test results (i.e. DMI, camera angles, video footprint, etc.) submitted on a monthly basis.
6. All weekly electronic sensor verification results (i.e. re-run of sections that had been run the previous Monday to determine that the DCV is still in calibration) submitted on a monthly basis.
7. JPEG Images will initially be submitted without "Header Information". Upon QA/QC and acceptance testing approval, the Consultant will resubmit the final images with appropriate "Header Information" applied.
8. Esri ArcGIS file geo-database v 10.3 or greater shall be the format in which all features are delivered.

2.4.8 Local Road Asset Inventory Delivery

An asset inventory shall be collected on a portion of the local jurisdiction public road network not maintained by CRPC. This one-time inventory collection shall encompass approximately 4,398 analysis lane miles which shall be identified by CRPC. This inventory represents the final data collection, of a multi-year collection, of the local jurisdiction public road network.

A. Consultant's Responsibilities

1. Meet all technical requirements outlined in this Project, Supporting Documents and Data Dictionaries required to meet the deliverables of this Task.
2. Collect all assets and attributes.

B. CRPC's Responsibilities

1. Provide CRPC Local Road Inventory Collection Manual
2. Supply "blank" ESRI file geodatabase features for each asset to be collected and the segmented attribute table. This file geodatabase will include correct schema and appropriate domains for data to be delivered.
3. Provide Data Dictionary for each attribute collected.

C. General Requirements

1. Capture, via the Consultants Asset Inventory Capture Tool.
2. All data shall be location referenced using the Location Reference System Identification (LRS-ID) provided by CRPC and GPS coordinates.
3. All data shall be exported to the supplied Esri geo-database features for use in GIS

applications. The Consultant shall use whatever geo-processing tools necessary to complete this requirement. All data must be compliant with the provided Esri geo- database features for use in GIS applications.

4. The Consultant shall reference the CRPC Local Road Inventory Collection Manual.

5. The Consultant shall generate a segmented Attribute Table of feature attributes which are identified below.

D. Deliverables

1. Collect the listed assets by Geographic Feature type. Data Dictionaries define specific data items to collect for each feature. Summaries of collected data may be required for reporting purposes. These shall be noted in the Data Dictionaries and the blank GIS schema for each feature. This data shall be capture and reported along a given LRS-ID.

a. Geographic Features (Assets) to Collect:

Some of the items in the next list such as *horizontal curve* are only required for new roads built during or after 2015. Thus, these items are expected to have the same values from previous survey or left bank.

1. Local Roads – Line Feature of Non-State Maintained Public Roads
2. Bridges – Line Feature of Bridge, Tunnel, & Causeway Locations
3. Curbs Outside – Line Feature of Curbs on right side of roadway
4. Curbs Inside – Line Feature of Curbs on left side of One Way & Divided Streets
5. Grade Classification – Line Feature of the Percent Grade Classifications
6. Horizontal Curve – Line Feature of Horizontal Curvature Classifications
7. Intersections – Point Feature at intersection of road features
8. Lane Widths – Line Feature of roads with the average Lane Widths in direction of travel
9. Number of Lanes – Number of through lanes in the direction of travel
10. Medians – Line Feature of roads with Median Types and Widths
11. On Route Parking Outside – Line Feature of Parking on the right side of a roadway
12. On Route Parking Inside – Line Feature of Parking on the left side of a roadway for One Way & Divided Streets
13. Surface Type – Line Feature of roads with Pavement Types and Pavement Widths including all lanes and shoulders (measured in feet)
14. Railroad Crossings – Point Feature at intersection of railroads and roads
15. Shoulders Outside – Line Feature of Shoulders on right side of roadway
16. Shoulders Inside – Line Feature of Shoulders on left side of One Way & Divided Streets
17. Sidewalks Right – Line Feature of Sidewalks on right side of roadway
18. Sidewalks Left – Line Feature of Sidewalks on left side of One Way & Divided Streets
19. Sight Distance – Line Feature of safe visible distance to pass other vehicles. It is also used to identify location of single passing striping (yes/no)
20. Speed Limit Signs – Point Feature at location of each ‘Speed Limit Sign.
21. Terrain Type – Line Feature identifying toll locations along a roadway.
22. Turn Lanes Right – Point Feature at location of each designated turn lane and length.
23. Turn Lanes Left – Point Feature at location of each designated turn lane and length.
24. Vertical Curve – Line Feature of Vertical Curvature Classifications

*Widths shall be averaged to the nearest 0.5 foot in the final delivery

b. Geographic Features (Assets) to Summarize:

1. Number of Bridges along each LRS
2. Number of Posted Bridges along each LRS
3. Number of At-Grade Intersections with Signals along a LRS
4. Number of At-Grade Intersections with Stop Signs along a LRS
5. Number of At-Grade Intersections with Yield Signs along a LRS
6. Number of At-Grade Intersections with No Control Device along a LRS
7. Number of At-Grade Intersections with Pedestrian Signals along a LRS
8. Number of At-Grade Intersections with Roundabouts along a LRS
9. Number of ADA Compliant Sidewalk Ramps along a LRS
10. Number of Railroad Crossings along a LRS

2. Create and deliver a segmented attribute data table of the following feature assets.

D.1.a. is required to optimize the asset data. The attributes to collect are listed here.

The following items are collected in continuation of the requirements of the pavement management system of the Louisiana Capital Area MPO created in 2013 by CRPC which included but not limited to details about the description and condition of every asset based on a standard scale agreed upon from both CRPC and the Consultant or already included in the data collection protocol used for previous survey.

- a. Surface Type
- b. Lane Width
- c. Number of Lanes
- d. Pavement Width
- e. Median Width
- f. Shoulder Type (Open Ditch/ Curb and Gutter)
- g. From/ To Intersection
- h. MUTCD Signs
- i. Street Signs
- j. Utility Poles

3. Data is to be reported on approved media storage dictated by CRPC appropriate in both size and compatibility.
4. Asset inventory measuring software files and software installation.
5. An asset inventory file used by Consultant to derive geo-database data is to be reported on approved media storage dictated by CRPC appropriate in both size and compatibility.

2.4.9 Optional: Local Road Asset Inventory Data Conversion

The Consultant optionally may be asked to convert or configure the past Local Road data and images, to a format that allows their proposed software solutions to access and display this data and imagery in conjunction with the data and imagery they will capture for this Project.

A. Consultant's Responsibilities

1. Meet all technical requirements outlined in this Project, Supporting Documents and Data Dictionaries required to meet the deliverables of this Task
2. Convert existing data and images.

3. Demonstrate converted data in Consultant's software.
4. Support, Updates, Corrections, etc. for this data, and data conversion, should subsequent errors, omissions, or mistakes, on the part of the Consultant, be determined as full use of this data, and software, is expanded by CRPC.

B. CRPC's Responsibilities

1. Provide Local Road data/images to Consultant.

C. General Requirements

1. Only the necessary data format shall be affected.
2. The data integrity shall not be compromised in any way to accomplish this Task. The data shall retain its original value, meaning, purpose and usefulness.
3. Esri ArcGIS file geo-database v 10.3 or greater shall be the format in which all features are delivered.

D. Deliverables

1. Converted data, or data tables, installed in the various software solutions provided by the Consultant.
2. Any data tables, configuration tables, etc. necessary to provide access to the data.
3. Converted images to display in the software solutions synchronized with the converted data.

XIV. Attachments

ATTACHMENT A: PROPOSER'S INFORMATION SHEET

ATTACHMENT B: FEDERAL REGULATIONS

- APPENDIX B.1 - CERTIFICATION REGARDING LOBBYING
- APPENDIX B.2 - DEBARMENT AND SUSPENSION CERTIFICATION
- APPENDIX B.3 - FEDERALLY REQUIRED CONTRACT CLAUSES

ATTACHMENT A: PROPOSER'S INFORMATION SHEET

All firms proposing as prime contractors or subcontractors on CAPITAL REGIONAL PLANNING COMMISSION (CRPC) projects are required to submit this form. Please complete this form and return it with your proposal.

If you have any questions about this form, please call Sooraz Patro, Director of Transportation, (225) 383-5203, or email Spatro@crpcla.org

1. GENERAL INFORMATION

Name of Firm:

Street Address:

City, State, ZIP:

Mailing Address:

City, State, Zip:

Telephone Number:

Fax Number:

E-mail address:

Web Address:

Year Firm was established:

Check all that apply:

Is this firm a prime consultant? _____

Is this firm a sub-consultant? _____ Identify specialty: _____

Is this firm a certified DBE? _____ If so, by whom? _____

Is this firm currently debarred? _____

Is this firm currently the subject of debarment proceedings? _____

2. FINANCIAL INFORMATION

Firm's annual gross receipts (average of last 3 years):

_____ <\$500,000

_____ \$500,000 - 1,500,000

_____ \$1,500,000 - \$5,000,000

_____ >\$5,000,000

Information will be maintained as confidential to the extent allowed by federal and state law.

The undersigned swears that the above information is correct. Any material misrepresentation may be grounds for terminating any contract which may be awarded.

Name, Title

ATTACHMENT B: FEDERAL REGULATIONS

APPENDIX B.1: CERTIFICATION REGARDING LOBBYING

The undersigned Contractor certifies, to the best of his or her knowledge and belief, that:

- 1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, *et seq.*)]
- 3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq.*, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official

Date: _____

APPENDIX B.2: DEBARMENT AND SUSPENSION CERTIFICATION

Choose one alternative:

- ☐ The Proposer, _____, certifies to the best of its knowledge and belief that it and its principals:
1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency;
 2. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or Contract under a public transaction; violation of federal or state antitrust statutes or commission or embezzlements, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 3. Are not presently indicated for or otherwise criminally or civilly charged by a government entity (federal, state, or local) with commission of any of the offenses enumerated in Paragraph 2 of this certification; and
 4. Have not within a three-year period preceding this Proposal had one or more public transactions (federal, state or local) terminated for cause or default.

OR

- ☐ The Proposer is unable to certify to all of the statements in this certification, and attaches its explanation to this certification. (In explanation, certify to those statements that can be certified to and explain those that cannot.)

The Proposer certifies or affirms the truthfulness and accuracy of the contents of the statements submitted on or with this certification and understands that the provision of Title 31 USC § Sections 3801 are applicable thereto.

Executed in (City) _____, **state of** _____

Printed Name: _____

Authorized Signature

Date

APPENDIX B.3: FEDERALLY REQUIRED CONTRACT CLAUSES

- A. **CIVIL RIGHTS REQUIREMENTS**
- B. **DISADVANTAGED BUSINESS ENTERPRISE (DBE)**
- C. **GOVERNMENT-WIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)**
- D. **LOBBYING**
- E. **ADA ACCESS**
- F. **NO OBLIGATION BY THE FEDERAL GOVERNMENT**
- G. **RECORDS AND REPORTS**
- H. **TERMINATION**
- I. **PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND RELATED ACTS**
- J. **BREACHES AND DISPUTE RESOLUTION**
- K. **CLEAR AIR**
- L. **CLEAN WATER REQUIREMENTS**
- M. **CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**
- N. **ENERGY CONSERVATION REQUIREMENTS**
- O. **RECYCLED PRODUCTS**
- P. **GOVERNING LAW**
- Q. **SEVERABILITY**
- R. **PATENT RIGHTS**
- S. **RIGHTS IN DATA AND COPYRIGHTS**

A. CIVIL RIGHTS REQUIREMENTS

Civil Rights – The following requirements apply to the underlying contract:

- 1) *Nondiscrimination* – In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.
- 2) *Equal Employment Opportunity* – The following equal employment opportunity requirements apply to the underlying contract:
 - a) *Race, Color, Creed, National Origin, Sex* – In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor,” 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, “Equal Employment Opportunity,” as amended by Executive Order No. 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
 - b) *Age* – In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
 - c) *Disabilities* – In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, “Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act,” 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
- 3) The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

B. DISADVANTAGED BUSINESS ENTERPRISE (DBE)

- 1) This contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, *Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs*. The national goal for participation of Disadvantaged Business Enterprises (DBE) is 10%. The agency's overall goal for DBE participation is 0.03%. A separate contract goal has not been established for this procurement.
- 2) The contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this DOT-assisted contract. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as CRMPO deems appropriate. Each subcontract the contractor signs with a subcontractor must include the assurance in this paragraph (*see 49 CFR 26.13(b)*). The successful bidder/offeror will be required to report its DBE participation obtained through race-neutral means throughout the period of performance.
- 3) The contractor is required to pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 30 days after the contractor's receipt of payment for that work from the CRMPO.
- 4) The contractor must promptly notify the CRMPO whenever a DBE subcontractor performing work related to this contract is terminated or fails to complete its work, and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. The contractor may not terminate any DBE subcontractor and perform that work through its own forces or those of an affiliate without prior written consent of the CRMPO.

C. GOVERNMENT-WIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the contractor is required to verify that none of the contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by the CRMPO. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to the CRMPO, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

D. LOBBYING

Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, et seq.] – Contractors who apply or bid for an award of \$100,000 or more shall file the certification

required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

**** MUST COMPLETE AND SUBMIT APPENDIX A: 49 CFR PART 20 – CERTIFICATION REGARDING LOBBYING ****

E. ADA ACCESS

Accessibility. Facilities to be used in public transportation service must comply with 42 U.S.C. Sections 12101 *et seq.* and DOT regulations, "Transportation Services for Individuals with Disabilities (ADA)," 49 CFR Part 37; and Joint ATBCB/DOT regulations, "Americans with Disabilities (ADA) Accessibility Specifications for Transportation Vehicles," 36 CFR Part 1192 and 49 CFR Part 38. Notably, DOT incorporated by reference the ATBCB's "Americans with Disabilities Act Accessibility Guidelines" (ADAAG), revised July 2004, which include accessibility guidelines for buildings and facilities, and are incorporated into Appendix A to 49 CFR Part 37. DOT also added specific provisions to Appendix A modifying the ADAAG, with the result that buildings and facilities must comply with both the ADAAG and amendments thereto in Appendix A to 49 CFR Part 37.

F. NO OBLIGATION BY THE FEDERAL GOVERNMENT

The purchaser and Contractor acknowledge and agree that notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

G. RECORDS AND REPORTS

The MPO and Contractor shall maintain all books, records, and other documentation pertaining to the Scope of Services and necessary to completely substantiate all costs incurred and billed to the MPO for a period of three (3) years from the date of final payment. These records shall be made available for inspection and audit to any state or federal authority authorized to inspect such records and copies thereof shall be furnished at the expense of Contractor, if so requested.

H. TERMINATION

If the Contractor fails to deliver supplies or to perform the services within the time specified in this contract or any extension or if the Contractor fails to comply with any other provision of this contract, the MPO may terminate this contract for default. The MPO shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. The Contract will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performances set forth in this contract.

I. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND RELATED ACTS

- 1) The Contractor acknowledges that the provisions of the Program Fraud civil Remedies Act of 1986, as amended, 31 U.S.C. §3801 *et. seq.* and U.S. DOT regulations, 'Program Fraud Civil Remedies,' 49 C.F.R. Part 31, apply to its actions pertaining to the Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or cause to be made, pertaining to the underlying contract of the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further

acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

- 2) The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by the FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. §1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.
- 3) The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

I. BREACHES AND DISPUTES

- 1) *Disputes* – Disputes arising in the performance of this Contract which are not resolved by agreement of the parties shall be decided in writing by the CRMPO's Executive Director. This decision shall be final and conclusive unless within then (10) days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to the Transportation Planning Director. In connection with any such appeal, the Contractor shall be afforded and opportunity to be heard and to offer evidence in support of its position. The decision of the Executive Director shall be binding upon the Contractor and the Contractor shall abide by the decision
- 2) *Performance During Dispute* – Unless otherwise directed by the CRMPO, Contractor shall continue performance under this Contract while matters in dispute are being resolved.
- 3) *Claims for Damages* – Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the party or of any of his employees, agents or others for whose acts he is legally liable, a claim for damages therefore shall be made in writing to such other party within a reasonable time after the first observance of such injury or damage.
- 4) *Remedies* – Unless this contract provides otherwise, all claims, counterclaims, disputes and other matters in question between the CRMPO and the Contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or if a court of competent jurisdiction with the State in which the CRMPO is located.
- 5) *Right and Remedies* – The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of and duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by the CRMPO or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, no shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

K. CLEAN AIR

- 1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. The Contractor agrees to report each violation to the purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.
- 2) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

L. CLEAN WATER REQUIREMENTS

- 1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 22 U.S.C. § 1251 et seq. The Contractor agrees to report each violation to the Purchaser and understands and agrees the

Purchaser will, in turn, report each violation as required to assure notification to FTA and the Appropriate EPA Regional Office.

- 2) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

M. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

- 1) *Overtime requirements* – No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less the one and on-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- 2) *Violation; liability for unpaid wages; liquidated damages* – In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefore - shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.
- 3) *Withholding for unpaid wages and liquidated damages* – The MPO shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract of any other federal contract with the same prime contractor, of any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquated dames as provided in the clause set forth in paragraph (2) of this section.
- 4) *Subcontracts* – The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) though (4) of this section and also a clause requiring subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

N. ENERGY CONSERVATION REQUIREMENTS

The Contract agrees to comply with mandatory standards and policies relating to energy The laws of the State of Louisiana shall govern the construction, interpretation the Energy Policy and Conservation Act.

O. RECYCLED PRODUCTS

The contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. § 6962), including but not limited to the regulatory provisions of 40 CFR part 247, and Executive order 12873, as they apply to the procurement of items designated in Subpart B of 40 CFR Part 247

P. GOVERNING LAW

The laws of the State of Louisiana shall govern the construction, interpretation, execution and enforcement of this Agreement.

Q. SEVERABILITY

In the event any provision of the Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision of this Agreement

R. PATENT RIGHTS

The Contractor Agrees that (a) Depending on the nature of the Underlying Agreement, the Federal Government may acquire patent rights when the contractor produces a patented or patentable invention, improvement or discovery, (b) The Federal Governments rights arise when the patent or patentable information is conceived or reduce to practice with federal assistance or (c) When a patent is issued or patented information becomes available as described in the preceding section (b) of section r., the FTA will be notified immediately and a detailed report satisfactory to FTA will be provided.

S. RIGHTS IN DATA AND COPYRIGHTS

"Subject data" means recorded information whether or not copyrighted, and that is delivered or specified to be delivered as required by the underlying agreement. Examples of 'subject data" include, but are not limited to computer software, standards, specifications, engineering drawings and associated lists, process sheets, manuals, technical reports, catalog item identifications, and related information, but do not include financial reports, cost analyses, or other similar information used for performance or administration of the underlying agreement.

Upon final payment, all designs, plans, reports, specifications, drawings, subject data and other services rendered by Contractor shall become the sole property of the MPO, which shall have the royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use and authorize others to use all such materials for authorized government purposes. Other entities that may reproduce, publish, or otherwise use the designs, plans, reports, specifications, drawings, and other services rendered by Professional include, but are not limited to the Louisiana Department of Transportation ("LADOT"), the Federal Transportation Administration ("FTA"), and the Federal Highway Administration ("FHWA").