ADVERTISEMENT FOR ENGINEERING AND RELATED SERVICES
MAY 25, 2022

CONTRACT NO. 4400024307
CONTRACT FOR I-20: WIDENING/OVRLY (VANCIL RD-LA 34)
STATE PROJECT NO. H.015052
F.A.P. NO. H015052
ROUTE: I-20
OUACHITA PARISH

DBE GOAL = 2%

Under the authority granted by Title 48 of Louisiana Revised Statutes, the Louisiana Department of Transportation and Development (DOTD) hereby issues this advertisement for consulting firms to provide engineering and related services. **Consultants who are a Louisiana or foreign LLC or corporation should be appropriately registered with the Louisiana Secretary of State, as contemplated by Title 12 of the Louisiana Revised Statutes, and with the Louisiana Professional Engineering and Land Surveying (LAPELS) Board under its rules for firms. If a consultant is not in good standing in accordance with those provisions, it may be subject to consequences contemplated in Title 12 and/or the LAPELS rules. All requirements of LAPELS must be met at the time the proposal is submitted. Prime consultants must be registered with the Louisiana Secretary of State and the Federal Government, using SAM.gov, prior to contract execution.**

One (1) proposal will be selected for the contract solicited per this advertisement. Only one (1) DOTD Form 24-102 proposal is required for this advertisement, and it represents the prime consultant's qualifications and those of any and all sub-consultants proposed to be used for the referenced contract(s). All identifying contract number(s) should be listed in Section 2 of the DOTD Form 24-102. **USE THE DOTD FORM 24-102, DATED MARCH 1, 2022, PROVIDED WITH THE ADVERTISEMENT.**

Any questions concerning this advertisement must be sent in writing to DOTDConsultantAds80@la.gov no less than 48 hours (excluding weekends and holidays) prior to the proposal deadline.

SCOPE OF SERVICES

The general tasks to be performed by the consultant for this contract are described more specifically in Attachment A, which is incorporated herein by reference.

The consultant shall perform the work in accordance with the requirements of this advertisement and the resulting contract. Deliverables shall be in such format as required in Attachment A. The work performed by the consultant shall be performed in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.

MINIMUM PERSONNEL REQUIREMENTS (MPRs)

The requirements set forth in Attachment B must be met at the time the proposal is submitted.

EVALUATION CRITERIA

The criteria to be used by DOTD in evaluating responses for the selection of a consultant to perform these services are listed below:

1. firm experience on similar projects, weighting factor of three (3);
2. staff experience on similar projects, weighting factor of four (4);
3. firm size as related to the project magnitude, weighting factor of three (3);
4. past performance on similar DOTD projects, weighting factor of six (6)*****;
5. current work load with DOTD, weighting factor of five (5);
6. approach and methodology, weighting factor of nine (9).

*The consultant is to identify in the table below those evaluation disciplines consistent with the approach and methodology proposed in Section 18 of the DOTD Form 24-102.

THE FOLLOWING TABLE MUST BE COMPLETED AND INCLUDED IN SECTION 12 OF THE DOTD FORM 24-102 PROPOSAL.

Sub-consultants are allowed to be used for this proposal. Fill in the table by identifying only those evaluation disciplines consistent with the approach and methodology proposed in Section 18 of the DOTD Form 24-102*, the name of each firm that is part of the proposal, and the percentage of work in each past performance evaluation discipline to be performed by that firm. The percentage estimated for each evaluation discipline is for evaluation purposes only and will not control the actual performance or payment of the work. The percentages for the prime and sub-consultants must total 100% for each past performance evaluation discipline, as well as the overall total percent of the contract. (Add rows and columns as needed)

Evaluation Discipline(s)	% of Overall Contract	Prime	Firm B	Firm C	Firm D	Firm E	Each Discipline must total to 100%
							100%
							100%
							100%
Identify the percentage of work for the **overall contract** to be performed by the prime consultant and each sub-consultant.							
Percent of Contract	100%						------

*The past performance evaluation disciplines are: Road, Bridge, Traffic, CE&I/OV, Geotech, Survey, Environmental, Data Collection, Planning, Right-of-Way, CPM, ITS, Appraiser and Other.

If sub-consultants are used, the prime consultant can perform less than 50% of the work, but none of the sub-consultants can perform a larger percentage of the overall contract than the prime consultant.

Proposals will be evaluated as set forth in the "Evaluation Criteria" section of this advertisement. The evaluation will be by means of a point-based rating system. Each of the above criteria will receive a rating on a scale of one (1) through five (5). The rating will then be multiplied by the corresponding weighting factor. The rating in each category will then be added to arrive at the proposal's final rating.

DOTD's Project Evaluation Team (PET) will be responsible for performing the above described evaluation, and will present a shortlist of the three (3) (if three are qualified), highest rated consultants to the Secretary of DOTD. The Secretary will make the final selection.

COMPLIANCE WITH SUPPLEMENTAL ETHICS REQUIREMENTS

DOTD has established supplemental ethics requirements applicable to consultants and PET members. These requirements are found in the "Supplemental Ethics Requirements" article of the sample contract linked to this advertisement, which are incorporated herein by reference. Any firm that is found to have violated these requirements may not be considered for this selection.

By submission of a proposal to perform services pursuant to this advertisement, the consultant agrees to comply with DOTD's Supplemental Ethics Requirements.

RULES OF CONTACT UPON ADVERTISEMENT

DOTD is the single source of information regarding the contract selection. Any official correspondence will be in writing, and any official information regarding the contract will be disseminated by DOTD's designated representative via the DOTD website. The following rules of contact will apply during the contract selection process, commencing on the advertisement posting date and ceasing at the time of final contract selection. Contact includes face-to-face communication, the use of a telephone, facsimile, electronic mail (email), or formal or informal written communications with DOTD. Any contact determined to be improper, at the sole discretion of DOTD, may result in the rejection of the proposal (i.e., DOTD Form 24-102).

Consultants and consultant organizations shall correspond with DOTD regarding this advertisement only through the email address designated herein; DOTDConsultantAds80@la.gov and during DOTD sponsored one-on-one meetings.

No consultant, or any other party on behalf of a consultant, shall contact any DOTD employee, other than as specified herein. This prohibition includes, but is not limited to, the contacting of: department, office, or section heads, project managers, members of the evaluation teams, and any official who may participate in the decision to award the contract resulting from this advertisement.

DOTD will not be responsible for any information or exchange that occurs outside the official process specified above.

By submission of a proposal to perform services pursuant to this advertisement, the consultant agrees to the communication protocol herein.

PROJECT TIME

The overall time for the completion of the scope of services is estimated to be **530 days**.

COMPENSATION

The estimated compensation payable to the consultant for all services rendered in connection with this contract shall be **$1,853,474**. This estimate will be used for grading purposes only. Actual compensation will be determined by DOTD based on work hours negotiated between DOTD and the selected consultant. Within fifteen (15) calendar days of notification of selection, a kick-off meeting will be held with the selected consultant and appropriate DOTD personnel. The selected consultant will be required to submit a work hour proposal within thirty (30) calendar days following the notification of selection. All negotiations must be completed within the timeframe set forth in the Consultant Contract Services Manual.

Payment will be made based on lump sum.

DIRECT EXPENSES

To the extent that the consultant is allowed to claim reimbursement for direct expenses, all direct expense items that are not paid for in the firm's indirect cost rate and are needed and will be consumed during the life of the contract must be identified by the consultant during contract development. Standard equipment or resources to be used in the provision of services rendered for this contract will not be considered for payment under direct expenses.

The consultant should own most of the equipment required to provide the work and services. The cost of this equipment should be included in the consultant's indirect cost rate. Equipment may be considered "specialized" if it cannot be considered standard equipment for that particular consultant's normal operating business needs. If a consultant believes special equipment is needed for the contract, the consultant must inquire through the Question and Answer process, as provided herein, whether the identified item will be considered specialized equipment for the individual contract.

All travel related expenses will be compensated under direct expenses, and will be in accordance with the most current Louisiana Office of State Travel regulations as promulgated in the Louisiana Administrative Code under the caption "PPM No. 49", with the exception that compensation for vehicle usage will be based on actual miles traveled directly and exclusively related to project needs. Vehicle rental rates will require prior approval from the PM.

CYBERSECURITY TRAINING

In accordance with La. R.S. 42:1267(B)(3) and the State of Louisiana's Information Security Policy, if the Consultant, any of its employees, agents, or sub-consultants will have access to State government information technology assets, the Consultant's employees, agents, or sub-consultants with such access must complete cybersecurity training annually, and the Consultant must present evidence of such compliance annually and upon request. The Consultant may use the cybersecurity training course offered by the Louisiana Department of State Civil Service without additional cost or may use any alternate course approved in writing by the Office of Technology Services.

For purposes of this Section, "access to State government information technology assets," means the possession of credentials, equipment, or authorization to access the internal workings of State information technology systems or networks. Examples would include but not be limited to State-issued laptops, VPN credentials to credentials to access the State network, badging to access the State's telecommunications closets or systems, or permissions to maintain or modify IT systems used by the State. Final determination of scope inclusions or exclusions relative to access to State government information technology assets will be made by the Office of Technology Services.

QUALITY ASSURANCE/QUALITY CONTROL

DOTD requires the selected consultant and all sub-consultants to develop a Quality Assurance/Quality Control (QA/QC) program in order to provide a mechanism by which all deliverables will be subject to a systematic and consistent review. The selected consultant shall address in its plan the review of all sub-consultant work and deliverables. The selected consultant must submit their QA/QC plan to the DOTD PM within 10 business days of the award notification to the consultant. Consultants must ensure quality and adhere to established DOTD policies, procedures, standards and guidelines in the preparation and review of all deliverables. DOTD may provide limited input and technical assistance to the consultant. Any deliverables to be transmitted by the consultant shall be transmitted with a DOTD Quality Assurance/Quality Control Checklist, and a certification that the deliverables meet DOTD's quality standards.

If Attachment A includes specific QA/QC requirements that contradict those set forth above, the requirements in Attachment A control.

TRAFFIC ENGINEERING PROCESS AND REPORT TRAINING REQUIREMENTS

As part of DOTD's on-going commitment to high quality traffic engineering reports, a traffic engineering training course must be taken by traffic engineering PEs and EIs in order to be eligible to work on DOTD projects. When traffic is included as a discipline on which past performance is evaluated, for consultants performing traffic engineering services (i.e., traffic analysis throughout all DOTD project stages and/or QC of traffic analysis), appropriate personnel must successfully complete the three (3) modules of the Traffic Engineering Process and Report Course offered by Louisiana Transportation Research Center (LTRC). This Course must be completed no later than the time the proposal is submitted or show proof of registration for the Course from the LTRC's Registration site. **Copies of training certificates or proof of registration are to be included in Section 22 of the proposal."** It will be the prime consultant's responsibility to ensure their staff and sub-consultants complete the training. Copies of training records may be obtained from the LTRC website https://registration.ltrc.lsu.edu/login.

WORK ZONE TRAINING REQUIREMENTS

As part of DOTD's on-going commitment to work zone safety, required work zone training courses must now be taken every four (4) years in order for personnel to remain eligible to work on DOTD projects. For consultants performing preconstruction services (*e.g.*, design, survey, subsurface utility, geotechnical, traffic, bridge inspection, environmental services), appropriate personnel must successfully complete these courses. In general, the person in responsible charge of traffic control plans shall be required to have Traffic Control Supervisor training. For preconstruction field services performed within the clear zone, at least one (1) member of the field crew shall have Traffic Control Supervisor or Traffic Control Technician training. The consultant should identify all personnel listed in the staffing plan for the contract who have completed the appropriate work zone training courses. All preconstruction work zone training requirements shall be met **prior to contract execution**. It will be the prime consultant's responsibility to ensure their staff and sub-consultants have the appropriate work zone training.

In addition to the above requirements, if the Scope of Services set forth in Attachment A includes Construction Engineering and Inspection (CE&I), the following training requirements shall be met **at the time the proposal is submitted**:

Field Engineers:	Traffic Control Technician Traffic Control Supervisor Flagger
Field Engineer Interns:	Traffic Control Technician Traffic Control Supervisor Flagger
Field Senior Technicians, Survey Party Chiefs, and SUE Worksite Traffic Supervisors*:	Traffic Control Technician Traffic Control Supervisor Flagger
Other Field Personnel*:	Traffic Control Technician Flagger

* excluding Asphalt Plant Inspector, Paint Managers, and Paint Inspectors

Approved courses are offered by ATSSA and AGC. Substitutes for these courses must be approved by the DOTD Work Zone Task Force. For more information, please contact DOTD HQ Construction at 225-379-1584. Specific training course requirements are:

Flagger:	Successful completion every four (4) years of a work zone flagger course approved by the Department. The "DOTD Maintenance Basic Flagging Procedures Workshop" is not an acceptable substitute for the ATSSA and AGC flagging courses.

Traffic Control Technician (TCT): Successful completion every four (4) years of a work zone traffic control technician course approved by the Department. After initial successful completion, it is not necessary to retake this course every four (4) years if Traffic Control Supervisor training is completed every four (4) years.

Traffic Control Supervisor (TCS): Successful completion of a work zone traffic control supervisor course approved by the Department. Following an initial completion, traffic control supervisors must either complete a one (1)-day TCS refresher course or retake the original two (2)-day TCS course every four (4) years.

ATSSA contact information: (877) 642-4637

REFERENCES

All services and documents will meet the standard requirements as to format and content of DOTD and will be prepared in accordance with the latest applicable editions, supplements, and revisions of the following:

1. AASHTO Standards – The American Association of State Highway Transportation Officials https://www.transportation.org/
2. AASHTO – A Policy on Geometric Design of Highways and Streets – https://bookstore.transportation.org/collection_detail.aspx?ID=110
3. ASTM Standards – https://www.astm.org/BOOKSTORE/BOS/index.html
4. CyberSecurity Training – https://forms.gle/deZGAo5hUMWeSG4P6
5. DOTD – Bridge Design and Evaluation Manual (BDEM) – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Pages/BDEM.aspx
6. DOTD – Complete Streets – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Multimodal/Highway_Safety/Complete_Streets/Pages/default.aspx
7. DOTD – Construction Contract Administration Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Pages/Engineering_Docs.aspx
8. DOTD – Consultant Contract Services Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CCS/Manuals/CCS%20Manual%20rev%20Dec%202020.pdf
9. DOTD – Hydraulics Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Public_Works/Hydraulics/Documents/Hydraulics%20Manual.pdf

10. DOTD – Location and Survey Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/LocationSurvey/Manuals%20and%20Forms/Location_and_Survey_Manual.pdf
11. DOTD – Addendum "A" to the Location & Survey Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/LocationSurvey/Manuals%20and%20Forms/Location%20and%20Survey%20Manual%20-%20Addendum%20A.pdf
12. DOTD – Louisiana Standard Specifications for Roads and Bridges – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Standard_Specifications/Pages/Standard%20Specifications.aspx
13. DOTD – Materials Sampling Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Materials_Lab/Pages/Menu_MSM.aspx
14. DOTD – Minimum Design Guidelines – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Road_Design/Memoranda/Minimum%20Design%20Guidelines.pdf
15. DOTD – Off-System Highway Bridge Program Guidelines – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Manuals/Other%20Manuals%20-%20Guidelines/2019%20Federal%20Aid%20Off-System%20Highway%20Bridge%20Program%20Guidelines.pdf
16. DOTD – Roadway Design Procedures and Details Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Road_Design/Pages/Road-Design-Manual.aspx
17. DOTD – Stage 1 Planning/Environmental Manual of Standard Practice – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Environmental/Pages/Stage_1.aspx
18. DOTD – Testing Procedures Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Materials_Lab/Pages/Menu_TPM.aspx
19. DOTD – Traffic Engineering Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/Misc%20Documents/Traffic%20Engineering%20Manual.pdf
20. DOTD – Traffic Engineering Process and Report – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/ManualsPublications/Pages/TEPR.aspx
21. DOTD – Traffic Signal Manual – http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/Traffic%20Control/Traffic%20Signal%20Manual%20V3%20-%207.1.20.pdf
22. e-CFR – Electronic Code of Federal Regulations (all applicable) – https://ecfr.io/

23. FHWA – Bridge Inspector's Reference Manual (BIRM) –
    website: https://www.fhwa.dot.gov/bridge/nbis.cfm
    manual: https://www.fhwa.dot.gov/bridge/nbis/pubs/nhi12049.pdf
24. FHWA – Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) – http://mutcd.fhwa.dot.gov/
25. National Electrical Safety Code (NESC) – https://standards.ieee.org/products-services/nesc/index.html
26. NFPA 70 – National Electrical Code (NEC) – https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=70
27. NEPA – National Environmental Policy Act – https://www.epa.gov/nepa

CONTRACT EXECUTION REQUIREMENTS

The selected consultant will be required to execute the contract within ten (10) days after receipt of the contract.

A sample of the contract provisions can be found at the following link: http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CCS/Pages/Advertisements.aspx.

DISADVANTAGED BUSINESS ENTERPRISE REQUIREMENT

This advertised contract has a Disadvantaged Business Enterprise (DBE) goal of **2%** of the contract fee. Credit for DBE participation will be limited to the firms certified pursuant to the Louisiana Unified Certification Program. For convenience, DOTD provides a list on its website (http://www8.dotd.la.gov/UCP/UCPSearch.aspx) of firms that have been certified as eligible to participate as DBEs on US DOT assisted contracts. This list is not an endorsement of the quality of performance of any firm but is simply an acknowledgment of the listed firms' eligibility as a DBE. DOTD makes no representations of the accuracy or completeness of this list on any particular date or time. Prime consultants considering the use of a particular DBE sub-consultant are advised to obtain documentation of certification status from that sub-consultant prior to submission of DOTD Form 24-102.

Prime consultants must specify by firm name in Section 11 on the DOTD Form 24-102 all DBE firms which the prime intends will participate in providing services under the contract to meet the DBE goal and indicate for each the percent of the contract fee for the services that will be performed by each specified DBE firm. If the prime did not succeed in obtaining enough DBE participation to meet the goal, it must attach to the DOTD Form 24-102, behind Section 23, documentation of its good faith efforts to meet the goal.

REVISIONS TO THE ADVERTISEMENT

DOTD reserves the right to revise any part of the advertisement by issuing addenda to the advertisement at any time. Issuance of this advertisement in no way constitutes a commitment by

DOTD to award a contract. DOTD reserves the right to accept or reject, in whole or part, all DOTD Form 24-102s submitted, and/or cancel this consultant services procurement if it is determined to be in DOTD's best interest. All materials submitted in response to this advertisement become the property of DOTD, and selection or rejection of a proposal does not affect this right. DOTD also reserves the right, at its sole discretion, to waive administrative informalities contained in the advertisement.

CLARIFICATIONS

DOTD reserves the right to request clarification of ambiguities or apparent inconsistencies found within any proposal, if it is determined to be in DOTD's best interest.

PROPOSAL REQUIREMENTS

The consultant's proposal for this advertisement must be submitted by email to DOTDConsultantAds80@la.gov. **USE THE DOTD FORM 24-102, DATED MARCH 1, 2022, PROVIDED WITH THE ADVERTISEMENT.** Hard copies of the consultant's proposal are not required. All proposals must be in accordance with the requirements of this advertisement, and the Consultant Contract Services Manual. Unless otherwise stated in this advertisement, copies of licenses and certificates are not required to be submitted with the proposal.

If more than one (1) contract is to be selected based on this advertisement, no prime consultant is allowed to be a sub-consultant on any other consultant's 24-102. If a prime consultant is submitted as a sub-consultant on another consultant's 24-102, its proposal as a prime consultant may be deemed non-responsive.

ANY CONSULTANT FAILING TO SUBMIT ANY OF THE INFORMATION REQUIRED ON THE DOTD FORM 24-102, OR PROVIDING INACCURATE INFORMATION ON THE DOTD FORM 24-102, MAY BE CONSIDERED NON-RESPONSIVE.

DOTD employees may not submit a proposal, nor be included as part of a consultant's proposal.

Contract and/or part-time employees are allowed. Such employees should be shown in Section 14 of the DOTD Form 24-102 with an asterisk denoting their employment status.

The DOTD Form 24-102 should be identified with **contract number 4400024307 and/or State Project No. H.015052,** and must be received by DOTD via email **no later than 3:00 p.m. Central Time** on **Thursday, June 16, 2022**.

ATTACHMENT A – SCOPE OF SERVICES

The project time is **critical**.
The route classification **NHS.**

The home office indirect cost rate shall be applicable to all services except as otherwise designated hereafter.

PROJECT DESCRIPTION

I-20 improvements consisting of the addition of an inside travel lane and shoulder in each direction with median barrier along I-20 from Well Road to LA 34, addition of an outside auxiliary lane in each direction from LA 617 to LA 34, and a mill and overlay of the existing travel lanes and shoulders from Vancil Rd Overpass to LA 34. Also includes all associated drainage, lighting, signing, and sign structure modifications.

The services to be performed by the Consultant under this Contract are described more specifically as follows:

STAGE 1: PLANNING/ENVIRONMENTAL

PUBLIC MEETINGS

Public Meetings are required during the environmental review process to ensure citizens have sufficient opportunity to provide input. One Public Meeting will be required for this project. If additional Public Meetings are required, these will be added at the discretion of DOTD and FHWA. The meeting shall follow open house format to allow appropriate review of project information throughout the public meeting period.

The Consultants shall handle all arrangements associated with the Public Meeting(s) including the reservation of venue, preparation and mailing(s) of public notice, preparation of appropriate exhibits, preparation of the technical presentations, handouts, and all other meeting related tasks. All of these arrangements are subject to the DOTD Environmental Section's approval. The Consultant shall advertise the notices of the Public Meetings in newspapers and inform local, state, and federal agencies and officials. The Consultant shall prepare and provide visualizations for public meetings. Visualizations shall include handouts, PowerPoint presentations, and various large-scale exhibits depicting the proposed alternatives, existing ROW, and required ROW for each of the different alternatives. Exhibits depicting all alternatives and estimated right-of-way takings shall be prepared for the Public Meetings.

Deliverables: One (1) exhibit shall depict the entire project area at a scale of approximately 1 inch = 75 feet. One (1) draft copy of visualizations and all meeting materials shall be submitted to DOTD for review, comment and approval at least three (3) weeks prior to the public meetings. Upon revision, a paper copy and an electronic (PDF) format of all meeting materials shall be submitted to DOTD.

The notice for each of the Public Meeting(s) shall be published two (2) weeks and one (1) week before the date of the Public Meeting. The text of the notice shall be provided to DOTD's Environmental Coordinator for review at least one (1) month prior to the first anticipated date of publication.

The Consultant shall conduct the Public Meetings and shall have knowledgeable informed staff present to address queries from the public of the environmental, engineering, and other project related issues. The Consultant shall prepare a transcript of each Public Meeting, including a verbatim transcript of recorded statements, copies of meeting materials, copies of official notice/press releases/and proof of publication, sign-in sheets, written comments, and other meeting materials. All comments received during the commenting period on the Public Meeting, including those received before the Public Meeting, shall be addressed by the Consultant in the Public Meeting Record. The comments shall be presented in a matrix that clearly identifies an appropriate response. Each public meeting transcript shall be provided to DOTD for review and approval prior to distribution. A paper copy of the meeting transcript shall be submitted as well as a copy in electronic (PDF) format on a labeled CD.

WETLAND STUDY

Wetlands within the project area will be identified and delineated using the latest Corps of Engineers (COE) guidelines. The consultant shall conduct a ground level investigation of the right-of-way to locate wetlands and verify the aerial base mapping. Wetlands will be classified by type. Each wetland area will be located on a quadrangle sheet as well as a layout map with the station numbers noted. Impacted wetland acreage will be calculated and will be marked on exhibits for wetland report. Color photographs of each soil sample with the appropriate Munsell soil chart in the same photograph will be taken and included in the report. Field data sheets will be prepared in the field and will be neat and legible. The Wetland Determination Data Form (Atlantic and Gulf Coastal Plain Region) will be used to document the wetlands delineation/identification effort. GPS sampling point locations will be included.

Preparation of Wetland Findings Report

A Wetlands Finding Report using the latest Federal Highway Administration (FHWA) criteria will be written and submitted to the DOTD Rural Bridge Replacement Program Manager.

The Wetland Findings Report to be prepared will include discussions of existing wetlands, vegetation communities and soils based on published soil surveys and soil sampling. The data sheets, photos, and wetland mapping prepared by the consultant during the field investigations will be included in the Findings Report. Wetland impact areas quantified by type will be reported.

This report shall include color photographs and a plan sheet indicating impacted wetlands. Photographs will be taken of the existing project area and the proposed project site with location referenced on a plan sheet. All photographs will be sharply focused, with accurate color and high resolution. High resolution digital technology shall be used and the image shall be comparable in quality to a good 35mm photographic image.

Report Standards

All reports submitted to the DOTD shall be prepared in publishable format according to current organizational and illustrative standards of professional biological journals. Reports shall be typed single space, on letter size white bond paper with top, bottom and side margins not less than one inch wide. All pages shall be numbered and there will be no hand written parts with the exception of field data entry sheets. The consultant's name will not appear on each page of the text. Photographs, plans, maps, drawings and text shall be clear and clean with typed or mechanically lettered captions. It is understood that all reports produced or resulting from these investigations will become property of the DOTD and no portions of the reports maybe released to any outside party or otherwise published in any form without prior written consent of the DOTD, including conclusions, recommendations, drawings, renderings, perspectives, sketches, photographs, specifications, cost estimates, etc.

All reports shall include color photographs and a plan sheet indicating impacted wetlands, and species and/or habitat, as applicable. Photographs will be taken of the existing project area and the proposed project site with locations referenced on the plan sheet. All photographs will be sharply focused, with accurate color and high resolution. High resolution digital technology shall be used and the image shall be comparable in quality to a good 35 mm photographic image.

Deliverables: The Wetlands Finding Report, using the latest USACE criteria, shall be submitted to the DOTD for review and comment. It shall include reproducible maps and photographs of each soil sample taken during wetland delineation activities. Soil sample photographs shall include appropriate Munsell soil chart pages for each sample. Quadrangle and layout maps provided in the report shall depict locations of delineated wetland areas and respective project station numbers. The final document along with all associated GIS files/data shall also be provided to DOTD's Environmental Section. All potential permits and their requirements to implement the project shall be identified. All items necessary to obtain the permits (with concurrence of DOTD) shall be provided by the Consultant. This includes the preparations of all permit drawings necessary for incorporation into the DOTD's application for a permit. Such drawings shall be original, reproducible drawings. The format of these drawings shall comply with the U. S. Corps of Engineer's standards, as the case may be, and shall be subject to the approval of the DOTD before acceptance.

STAGE 3: DESIGN - TRAFFIC SERVICES

Study Objective

The study will analyze the proposed improvements on I-20 from Vancil Road to LA 34. Well Road (LA 3249), Thomas Road (LA 617) and Jonesboro/Stella Street (LA 34) are the three interchanges that will be directly impacted. The proposed alternative will widen I-20 to three lanes in each direction between LA 3249 and LA 34. Auxiliary lanes will also be added in both directions on I-20 between LA 617 and LA 34.

Study Limits

The study limits are as follows:

- I-20 (Vancil Road to just east of LA 34)
- LA 3249 (N and S of I-20 entrance ramps)
- LA 617 (N and S of I-20 entrance ramps)
- LA 34 (N and S of I-20 entrance ramps)

Task 1.0 KICK-OFF MEETING

A meeting with the Department and the Consultant shall be held at the beginning of the Task Order. The purpose of this meeting is to establish the foundation for continued coordination, to develop a mutual understanding of the deliverables, agree on the procedures to follow, as well as to discuss the Measures of Effectiveness (MOEs) to be compared for analyses. The Consultant team shall be in attendance.

The following documents are required for the Consultant to provide during the meeting:

- Agenda
- Sign In Sheet
- Project Schedule

Any requests or exchange of information from either party necessary to complete the scope of services should be done at this meeting. It is the consultant's responsibility to take minutes for this meeting and distribute copies to all attendees within 3 days of the meeting.

Task 1.0 DELIVERABLES:

A. Agenda – submitted to DOTD one week prior to the meeting
B. Kick-Off Meeting Minutes – submitted to Task Manager within 3 days

Task 2.0 – INITIAL DATA COLLECTION

All counts shall be made when school is in session. Taking counts during holiday weeks and during special events or inclement weather shall be avoided. If counts are being taken and weather becomes a factor during the time of the counts, note such conditions as well as any accidents that may have occurred. DOTD will supply the count map with locations and the type of counts to be collected.

1. 7-day 24-hour counts with classifications

7-day 24-hour counts shall be taken along the I-20 corridors for an overall flow representation. The 7-day 24-hour count will be able to show if the corridors experience any unique traffic patterns or if the corridors experience peak periods during weekend or nontraditional peak periods.

Counts will include classification information broken into automobiles 1-3, buses 4-7, and heavy vehicles 8-13. All 7-day 24-hour count data will be provided on a CD or USB with the summary

and pertinent information included in the report and/or appendix. Specifically, see Table 1 below for a summary of the location for all 7-day 24-hour counts.

Table 1

7-Day 24-Hour Counts with Classifications (Shall be taken in the same week)	
Count Number	**Count Location**
1	I-20 WB and EB west of LA 3249 (Well Road)
2	I-20 WB and EB east of LA 34 (Jonesboro/Stella Road)

Peak Period

The 7-day 24-hour data will determine the peak period for the corridor. The Consultant will need to submit and get approval from DOTD for the peak period determination prior to any 48-hour counts or turning movement counts being collected. Careful attention should be paid to the duration of the peak period of the corridor. The peak period is not just a standard two to three-hour period but rather it is dependent on the location and the amount of traffic the corridor experiences. The peak period should be determined and justified by the traffic counts. See the LADOTD's Traffic Engineering Website for an example of peak period determination.

Task 2.0 - DELIVERABLES (Approval needed to begin Task 3.0 – Final Data Collection):

- **Appendix A – Initial Data Collection**
  A. Electronic copy of all 7-day 24-hour raw counts
  B. Peak Period Determination with chart and explanation
  C. QA/QC Documentation

Task 3.0 – FINAL DATA COLLECTION

48-hour counts with classifications - 48-hour counts shall be taken at all approaches of I-20 at LA 3249, I-20 at LA 617 and I-20 at LA 34. These counts shall be taken at the same time as the TMCs. This data will be used to confirm the TMCs and demand that were taken are accurate and useable for analysis.

Counts will include classification information. The format for the 48-hour count data will be similar to the 7-day 24-hour data. All 48-hour count data will be provided electronically with the summary and pertinent information included in the report and/or appendix. Specifically, see Table 2 below for a summary of the location for all 48-hour counts.

Table 2

48-Hour Counts with Classification	
Count Number	**Count Location**
3	LA 3249 NB and SB N of I-20 (Roundabout)
4	LA 3249 NB and SB S of I-20
5	LA 617 NB and SB N of I-20
6	LA 617 NB and SB S of I-20
7	LA 34 NB and SB N of I-20 (Couplet)
8	LA 34 NB and SB S of I-20

Turning Movement Counts (TMC) – The Consultant shall perform AM and PM peak period turning movement traffic counts for intersections listed below. The peak period counts will include turning movements, pedestrian and heavy vehicle percentages. All TMCs shall be taken at the same times with the respective 48-hour counts.

Demand Volumes - While collecting the peak period TMCs, the unmet demand volumes need to be noted in 15-minute intervals during each peak period (AM and PM). Every 15-minutes during the peak period, a person not collecting the TMC's should note how long the queue length is once the green phase has ended at each signalized intersection approach. If cameras are used, a technician will be needed to determine the end of the queue. The queue needs to be recorded no matter how long it may be. For example, a queue of "50+" is unacceptable. If technicians are used to take TMCs, two may be needed in order to measure the queues in 15-minute intervals. The information collected can be used to calculate the unmet demand at the signalized intersection. The ITE Manual of Transportation Studies (pg. 44 – 2nd Edition) can be used to calculate the unmet demand and the volume should be applied to your TMC's to include the demand on the network. Specifically, see Table 3 below for a summary of the locations for all TMCs with demand.

** All counts will be taken in accordance with LA DOTD Signal Design Manual. The peak period manual turning counts shall be taken at times approved by DOTD.

Table 3

TMCs with Demand	
Count Number	**Count Location**
9	I-20 WB On Ramp (SB on Well)
10	I-20 WB Off Ramp (NB on Well)
11	I-20 EB On Ramp (SB on Well)
12	I-20 EB Off Ramp (NB & SB on Well)
13	I-20 EB On Ramp (NB on Well)
14	I-20 EB Off Ramp at Mane St.
15	I-20 EB On Ramp at Mane St.
16	I-20 WB Off Ramp at Downing Pines
17	I-20 WB On Ramp at Downing Pines
18	I-20 WB On Ramp at Thomas Rd.
19	I-20 WB Off Ramp at Thomas Rd.
20	I-20 EB Off Ramp for N on Thomas Rd.
21	I-20 EB Off Ramp for S on Thomas Rd.
22	I-20 EB On Ramp at Thomas Rd.
23	I-20 WB On Ramp (SB on LA 34)
24	I-20 EB On Ramp (SB on LA 34)
25	I-20 WB Off Ramp for N on LA 34 (Mill Rd. – Couplet/1 Way)
26	I-20 WB On Ramp (NB on LA 34)
27	I-20 WB Off Ramp for S on LA 34
28	I-20 EB Off Ramp for N on LA 34
29	I-20 EB Off Ramp for S on LA 34
30	I-20 EB On Ramp (NB on LA 34)

Geometric Field Check

The Consultant shall go out to the field and make observations at all intersections (i.e. actual observed signal phasing, number of lanes, lane and median width, storage lengths, surrounding businesses and residential driveways, existing speed limits, etc.). See the Geometric Field Check Form example on LA DOTD's Traffic Engineering Website.

Peak Period Observations

Peak period observations shall be collected during the entire peak period along I-20, LA 3249, LA 617, and LA 34. Please note that peak period observations, TMCs, and demand volumes shall be taken by separate people. These observations shall be collected at all TMC locations as well as along the entire corridor. Characteristics to pay attention to are (but not limited to) flow, queue lengths, congestion, lane utilization, operational issues, and driver behavior. The detail included in these observations should assist in the calibration of the HCS Analysis by explaining what is occurring in the field during a typical peak period.

Spot Speed Study

If applicable, the spot speed study shall be performed in accordance with EDSM VI.1.1.1 and Section 20.2 of the DOTD's Traffic Engineering Manual. The purpose of the speed study is to obtain the desired speed inputs for HCS analysis. Please note, the results from the speed studies must also be considered when analyzing any future alternatives.

Growth Rate Determination

The Consultant shall determine the growth rates for the study area. Separate growth rates may be applied for I-20, LA 3249, LA 617, and LA 34. Written justification of the growth rate(s) will be included that document sources, such as TransCAD, Historical Growth, and/or any previous studies used.

Task 3.0 – DELIVERABLES:

- **Appendix B – Final Data Collection.** All data should be submitted electronically in addition to any hard copies noted below:
    A. 48-Hour Counts with Classification
    B. Raw Turning Movement Counts (TMCs)
    C. Demand Calculations and Summary of any demand counts that need to be added to TMCs, how they were calculated and any/all assumptions that were made.
    D. Maps (*hard copy*)
        1. Raw peak hour volumes for each peak AM & PM
        2. Peak hour volumes with demand
        3. Balanced Volumes & Volume balancing methodology
        4. Final Volumes
        5. No Build Volumes
    E. Geometric Field Check form with TSI verification
    F. Completed Peak Period Observation form
    G. Speed Study Data
    H. Growth Rate Determination Justification
    I. QA/QC Documentation

- **Chapter 1 of Final Report**. The data collection chapter shall clearly identify the methodology and analysis of the multi-stage process of collecting traffic data for evaluating existing and future conditions within the study area. Deliverables submitted during data collection for approval and advancement to the next stage should be included as sections within Appendix A: Data Collection.

  1.1 Summary

  - Introduction
    - Explanation of the methodology for collecting data including the type of counts, study area information, etc.
  - 7-day 24-hour counts
    - Summary of the peak periods within the study area. Is the peak period during a standard Tuesday, Wednesday, and Thursday or is the peak experienced on the weekend? Explanation of any intersections that experience a peak outside of the peak period of the corridor (school, event center, mall, etc.)
  - Peak Hour and Peak Period for corridor
    - State the peak period for the corridor as well as the peak hour (AM and PM). Is a corridor peak being established for the study area or are there intersections that produce a secondary peak along the corridor such as a school, chemical plant, large commercial generator, etc.
  - Any information that is important to note for the corridor – vehicle classification, large traffic generators, schools in area, etc.

  1.2 Growth Rate Methodology

  - Justification of how the growth rate was determined and the growth rate(s) to be used.
    - TransCAD information or historical growth rate information will be placed in the Appendix – Data Collection

Task 4.0 – EXISTING SAFETY ANALYSIS

Crash History & Crash Summary

The Consultant shall pull all crash history within the limits of this study for the latest 3 years of available certified data for the project study area. A crash summary analysis for all 3 years shall show trends of crash rates, location, and severity (see DOTD Safety Section CATScan Tool) and compare to the statewide averages, where applicable. Quality Assurance shall be performed to a Quality Assurance Index (QAI) of 90% in the CATScan Tool. If a consistent trend is present throughout the 3-years of data, the trend information shall be submitted to DOTD prior to performing any detailed crash analysis. After DOTD concurrence of the trend information, a detailed crash analysis shall be performed for 1-year of typical data, in which all crash reports will be read in detail. If a consistent trend cannot be determined through the 3-years of data, a detailed crash analysis shall be performed for all 3-years for the project study area. The detailed crash analysis shall consist of a review of the crash reports in detail to determine the type of collision based on the reporting officer's description. A report shall be submitted to DOTD Highway Safety

Section for any crash reports within the latest year of data (1 year) that are found to be erroneous. The Consultant shall prepare QA/QC documentation for the review and approval of DOTD.
The Consultant shall provide a crash summary for the latest three (3) years of crash report (2018-2020). The Consultant shall review the crash reports in detail to determine the type of collision based on the reporting officers' description of the collision for one year, since the three-year trend is similar. The consultant shall review in detail 124 crashes in 2019. The number of crashes listed for detail review will be used as a basis for estimating man-hours and may differ after the consultant has done a review of 3 years of data.

Task 4.0 – DELIVERABLES:

- **Appendix C** – Existing Safety Analysis
    A. CATScan Tool
    B. Crash Report Documentation – crash history, corrected component of crashes and provide individual summary of crash report narratives
    C. Collision Diagram
    D. Crash Analysis Summary –summary of crash reports explaining results
    E. Existing Safety Analysis QA/QC Checklist

Task 5.0 – EXISTING AND NO BUILD ANALYSIS

Existing Network

The existing network for this study shall be analyzed in HCS and will include I-20 Mainline from LA 3249 to LA 34 and the ramp terminals at LA 3249, LA 617 and LA 34 interchanges.

Methodology

HCS software shall be used to evaluate transportation design alternatives, operational performance, and traffic operation strategies. If any mitigation include or proposes a new roundabout, SIDRA shall be used.

Measures of Effectiveness

The Measures of Effectiveness (MOEs) that shall be used for evaluation are as follows:

- I-20 Freeway Segments
    - Density
    - Density LOS
    - Free Flow Speed
    - Average Speed
- Ramp Merge/Diverge
    - Density
    - Speed of ramp influence area
    - Speed of outer lane

- Intersections
    - 95th Percentile Queue
    - V/C ratio
    - Control Delay
- Maximum Queue lengths
    - On and off ramp queueing

Proposed Analysis Years

Existing year 2023 and design year 2043.

Task 5.0 – DELIVERABLES:

- **Chapter 2** (to be included in Final Report):
- **Appendix D**
    - **Existing and No Build Network Analysis:** list and discuss all intersections
        - A detailed description of intersection, nearby land use and issues
        - Aerial of intersection (showing the existing lane configuration, TMCs, businesses and any noticeable feature mentioned)
        - Peak Period Observations (photos, detailed descriptions of queues, issues, etc.)
        - Aerial with Peak Period Queues
        - Crash History / Safety Analysis
        - Operations Analysis Results for Existing and No Build Conditions
        - MOE Table of Results (including queues, delays, v/c ratios, etc.)
    - **2.2 Summary and Findings of Overall Study Area**
        - Identify study area needs, capacity, and safety concerns
        - Propose preliminary improvement concepts to address identified needs
        - Discuss how the individual analyzed intersections affect each other and what the overall network performance, if applicable
        - Any segments with issues should be discussed
        - Analysis results on map with road name, control type, queues and north arrow of the entire corridor (can be in Appendix D)
- **Tier 1 Analysis**
  (As described in the "Traffic Engineering Analysis Report Requirements" document: see http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/ManualsPublications/TEPR/Files/Tier%201.pdf)

Alternative Consideration

A conceptual layout of the proposed improvements for I-20 was developed by District 05 and will be provided to the consultant. This is the only alternative that will be considered along the I-20 mainline.

Task 6.0 – PRELIMINARY TIER 2 ALTERNATIVE ANALYSIS & MEETING

The Consultant shall present and discuss centerline-sketched layouts of the alternative that was approved in the Existing and No Build Results Meeting with redistributed volumes and high-level analysis. Any concerns (ROW, geometrics, access management etc.) from the centerline sketches will be discussed.

Task 6.0 – DELIVERABLES:

- Meeting minutes submitted to the Task Manager for review within 3 days of the meeting.
- Any comments will be made by DOTD after the review period and the meeting.

Task 7.0 – FINAL ALTERNATIVE ANALYSIS

The approved initial concept with the additional lanes in both directions along I-20 and the proposed auxiliary lanes between LA 617 and LA 34 will be used as the alternative for analysis. At this time, ramp terminals will be analyzed as-is without any modifications.

Operational Analysis

The Consultant shall analyze the following MOEs in HCS for the associated locations build year (2043). The approved 2043 No Build model will be used with the geometry and traffic patterns updated to reflect the alternatives.
The same locations/segments of the study area identified during the No Build Analysis will be used for the Tier 2 Analysis and MOEs will be obtained from the HCS models including:

Measures of Effectiveness (MOEs)

The MOEs that shall be used for evaluation are as follows:

- I-20 Freeway Segments
    - Density
    - Density LOS
    - Free Flow Speed
    - Average Speed
- Ramp Merge/Diverge
    - Density
    - Speed of ramp influence area
    - Speed of outer lane
- Intersections
    - 95^{th} Percentile Queue
    - V/C ratio
    - Control Delay
- Maximum Queue lengths
    - On and off ramp queueing

The Consultant shall develop a table comparing the No Build and Build MOE results.

If, during the analysis of the alternatives, it becomes evident that the proposed alternative(s) are not viable due to unacceptable operations or critical geometry issues that cannot be remedied, then DOTD must be notified of these developments ASAP.

If this analysis results in adverse impacts to the ramp terminals, improvements may be needed to mitigate the impacts. The consultant shall contact DOTD immediately to discuss supplemental scope of work.

Safety Analysis

The safety analysis shall include a comparison of conflict points for each interchange alternative versus what is current. Figures should be used to illustrate each alternative.

Critical Geometry

The alternative will be drawn using a single sketch line technique. Each line shall represent each ramp and traveled way of the highway in the plan view. Number of lanes required and controlling horizontal curve information shall be noted in plan view. The alternatives shall be drawn in profile using single lines indicating existing grade and each tier of the proposed interchange with relative elevations. These lines will be developed to scale and apply design criteria and operational characteristics.

Specific design guidelines should be noted for each roadway facility.

The purpose of this analysis will be to ensure adherence to the design guidelines and identify areas of the alternative that may violate design guidelines or require further investigation due to site-specific constraints.

The geometric layout of the proposed alternative should be included in the Appendix.

All geometric design shall be coordinated with the preliminary plan design efforts. Overlapping work shall utilize preliminary designs as necessary within the traffic study.

Miscellaneous Analysis & Considerations

Additional categories initially explored and evaluated during Tier 1 should be carried to Tier 2 and expanded.

- **Construction Cost**
  A brief description on the basis of the calculation of construction cost should be provided followed by a ranking of alternatives by dollar amount. Construction cost rankings should be based on an order of magnitude.

- **ROW**
  A brief description on the basis of the calculation of required ROW should be provided followed by a ranking of alternatives by acreage. ROW rankings should be based on an order of magnitude.

- **Takings**

  A brief description of the number of buildings, structures, etc. required to be purchased for the development of the each proposed alternative along with their respective approximate costs. Taking ranking should be based on an order of magnitude.

- **Environmental/Social Impacts**

  A brief description on the basis of the qualitative and quantitative impacts should be provided by a ranking of alternatives. These impacts may include acreage of sensitive areas affected and/or number of modified or removed access points.

The Preliminary Alternative Analysis will be summarized with a conclusion of the results of the Tier 2 Analysis and the input provided at the Tier 2 Analysis Meeting. This conclusion will provide pros and cons with recommendations for any alternatives that have been selected for advancement.

Task 7.0 – DELIVERABLES:

- **Appendix E – Alternative Analysis**
  A. Tier 1 Matrix with documentation
  B. Tier 2 Analysis and Documents
     - 11 X 17 Map showing redistributed future year volumes
     - 11 x 17 Map of queues comparing No build to Alternative
     - Electronic copy Analysis for Operations and Safety
     - Software Analysis Output (.pdf file)
     - Safety Analysis software files
     - Intersection Summaries – each intersection with Turning Movement Counts (TMCs) and/or modifications
     - Summary Table of Results compared to No Build (to be included in Chapter 3 of Final Report)
     - Critical Geometry Layout
     - Design Guideline Report
  C. Miscellaneous Analyses and Considerations
  D. QA/QC Documentation
  E. Introduction of Final Report
  F. Chapter 3 of Final Report
  G. Executive Summary

Task 8.0 – FINAL ALTERNATIVE ANALYSIS MEETING

The purpose of this meeting is for the Consultant to present and discuss the final alternative in Chapter 3. Any concerns with the presented Tier 2 alternative will be discussed during this meeting.

Task 8.0 – DELIVERABLES:

A. Meeting minutes submitted to the Task Manager for review within 3 days of the meeting.
B. Any comments will be made by DOTD and FHWA after the review period and the meeting. These comments shall be addressed and incorporated (if needed) in the Final Report.

Task 9.0 – FINAL REPORT

The Final Report will be prepared to address the purpose & need of the project and will include the following reviewed and approved deliverables (Chapters and Appendices):

- Chapter 1, Appendix A & B
- Appendix C
- Chapter 2, Tier 1 Analysis, Appendix D
- Chapter 3, Introduction, Executive Summary, Appendix E

Upon review and approval, the five final hard copies of each of the reports will be submitted for acceptance contingent upon findings.

Task 9.0 – DELIVERABLES:

- Sealed Reports (Draft must be approved before final submission)
- 2 hard copies of reports
- 2 electronic copies

Transportation Management Plan

A Transportation Management Plan (TMP) shall be performed in accordance with DOTD's EDSM VI.1.1.8. A **Level 4** Transportation Management Plan shall be developed and provided. The TMP shall include but not be limited to an adequate **queue analysis** in accordance with Section 6A.1, Queue Analysis for Lane Closures on Interstate of the *Traffic Engineering Manual*, a **safety analysis** in accordance with the DOTD intranet page under the Highway Safety link for the current Guidelines for Conducting a Crash Data Analysis using the Number-Rate Method and Overrepresented Determination, work zone impact management strategies, and other information gathered to prepare a complete and comprehensive TMP in accordance with the attached Table of Contents.

In cases where work associated with the Transpiration Management plan overlaps with work performed under the Traffic Analysis and Studies, the results from the traffic analysis shall be used for development of Transportation Management Plan.

Deliverables

The Consultant shall submit an electronic copy in pdf format of the DRAFT Level 4 TMP to the Project Manager for review. Following the resolution of comments, the Consultant shall submit an electronic copy in pdf format of the FINAL Level 4 TMP to the Project Manager for review. After addressing any final comments, the Consultant shall submit an electronic copy in pdf format of the complete FINAL Level 4 TMP for final acceptance to the Project Manager. Larger files shall be submitted with a link to the corresponding ProjectWise file in either case.

STAGE 3: DESIGN - PRELIMINARY AND FINAL PLANS

Preliminary Plans shall consist of all engineering services required for the completion of Preliminary Plans and cost estimates for the Project, all under a schedule for completion, which shall be in conformity with the contract time specified elsewhere in this contract or established by the Project Manager. Specifically, the work under this section consists of the following major items:

- Prior to submitting any document to DOTD for review and comment, the Consultant shall complete detailed checks of all work product and peer reviews of substantial deliverables and specialized analyses. Detailed checks shall be completed by a staff person who is not directly associated with the development of the work product.
- The assembly and study of existing data, including improvement studies, boring information, if any, traffic data available through the DOTD, and such other data as can be located through efforts of the Consultant.
- The performance of all supplemental topographic surveys as may be required for the proper design and layout of the project; however, the performance of additional surveys shall not commence without prior approval of the DOTD. The supplemental survey shall also include all services necessary to re-establish the project centerline where the existing stakeout has been obliterated. This work shall include the establishment of referenced iron rods along the centerline as necessary to re-establish the line.
- The preparation of location plans for subgrade soil borings that, in the judgment of the Consultant, may be necessary for design of the Project. The Consultant shall also prepare additional location plans as may be required by the DOTD for conducting additional borings deemed necessary by the DOTD.
- Project kick off meeting, design/production meetings, and site visit(s) as required.
- Preparation and submittal of design criteria, QA/QC plan document, and Preliminary Plans
- The preparation of Preliminary Plans for the Project shall be in accordance with the requirements outlined in the current editions of DOTD's Roadway Design Procedures and Details Manual and Hydraulics Manual. Plans, at the 30%, 60%, 90%, and 100% Preliminary Plans stages, as well as links to the posted plans in ProjectWise, shall be submitted to the Project Manager for preliminary examination, department review, and comments. Upon receipt of any such comments, the Consultant shall revise the plans accordingly. The Consultant shall then submit to the Project Manager all computer-generated original reproducible of the Preliminary Plans. The Plans shall be dated and stamped "Preliminary" for further review, and for DOTD's use in developing the prints necessary for a complete Plan-in-Hand field inspection with members of DOTD and other interested parties, when so named herein, at a time and date mutually agreed to in advance by all parties.
    - Subsequent to the Plan-in-Hand inspection, the Consultant shall make all changes in the plans, as necessary, to reflect agreements reached at this Stage. The plans shall show the existing right-of-way and any taking lines required for additional right-of-way, and shall be referenced to the centerline of the Project. The Consultant shall then submit revised computer-generated original reproducibles of

the plans to the Project Manager.
    - Specifications for the Project shall be in accordance with the latest edition of Louisiana Standard Specifications for Roads and Bridges, amended to comply with the current practices of DOTD.
- The preparation and submittal of (but not limited to) the following:
    - Estimates of construction contract costs based on estimated quantities developed for each submittal of Preliminary Plans.
    - Special Provisions and Non-Standard Pay Items (if required).
    - Design Report and QA/QC Certification (with all signatures).
    - Documentation of all Required and Approved Design Waivers and/or Exceptions.
- The design format for this improvement shall comply with the criteria prescribed in 23 CFR 625, Design Standards for Highways. The format of the plans shall conform to the standards used by DOTD in the preparation of its contract plans for items of work of similar character, including plans for all drainage affected.
- Design for Preliminary Plans shall be done in English units of measurement.

The Consultant shall provide preliminary roadway plans for the project including, but not limited to:

- Title Sheet
- Typical Section and Details
- Summary of Estimated Quantities
- Misc. Details & General Notes
- Reference Points and Bench Mark Elevation Sheets
- 1"=50' Plan/Profile sheets (with subsurface drainage and open ditch drainage)
- Design Drainage Maps
- Geometric Layout and Geometric Details
- Temp. Const. Signs, Suggested Seq. of Construction
- Cross-Sections (earthwork)
- Design Report
- Design Waivers or Design Exceptions (if required)
- Preliminary Construction Cost Estimate

Final Plans shall consist of all services required for the preparation of Final Plans, specifications, and estimates, all meeting the standard requirements of DOTD as to general format, content, and required submittal and review stages. The Final Plans phase shall be initiated upon issuance of a separate Notice to Proceed from DOTD. The schedule for all deliverables will be set by DOTD. All submittals are subject to review by DOTD. Specifically, the work under this section consists of the following major items:

- The design and preparation of completed detailed Final Plans drawn to acceptable scales for the Project. At a minimum, the plans shall include designs and/or details for all grading, pavement, drainage, intersections, traffic control and structures. The Final Plans shall show construction limits and final R/W taking lines. The earthwork cross sections shall also show R/W taking lines and existing utilities.

- Preparation and submittal of construction cost estimates based on the Final Plans.
- The submittal to the Project Manager of original unsigned reproducible drawings of the 95% Final Plans.
- Attendance at a 95% Final Plan Review meeting, as determined by the DOTD Project Manager.
- The completion of all required forms, checklists, etc., as required by DOTD guidelines, standards, and project development practices.
- Submittal of stamped, signed Final Plans are to be accompanied by PDF's of the plan sheets and shall be properly indexed, neatly arranged and contain a copy of all design computations used in developing the pay quantities and the drainage design data for culverts and storm sewers, as applicable. The submittal shall be accompanied by a written certification from the Consultant that a detailed check of such computations by qualified personnel has been made prior to submission. At any stage of the plan development process, plan delivery by other methods may be required. That includes, but is not limited to, the uploading of the plans to ProjectWise.
- In addition to 60%, 95% Final plan submittals, a 98 % Final Plan submittal stamped and signed by Engineer of Record is to be made for submittal to DOTD Contract's for DOTD's preparation of the construction proposal.
- The preparation of any non-standard specifications or special provisions, if required.
- Submittal of the completed Constructability Review Form, the Design Report, the QA/QC Checklist, the Contract Time Worksheet and the Storm Water Pollution Prevention Plan (SWPPP).
- Distribution of the plans for review at each submittal stage, as directed by the DOTD Project Manager. Submittal of written disposition of all plan review comments to the DOTD Project Manager.
- The Consultant shall review the PS&E documents for completeness and proper coordination of plans, specification, construction items and quantities once a draft of the proposal has been made available by DOTD.
- The Consultant shall prepare construction estimates using DOTD's standard bid items. A summary of the estimated quantities shall be furnished by the Consultant to the DOTD for entry into DOTD's BIDS system.
- The Project Segment quantities shall be broken down according to construction funding sources and project control sections. Should the plans not contain enough information to determine the breakdown; DOTD will provide guidance.
- Provide responses to all Falcon questions related to the details, quantities, and method of construction related to design plans. If comments from Falcon questions result in a plan revision, the consultant must do so in a timely manner that does not result in a delay of the letting.
- Written justification of estimated costs following the construction bid if estimate is not in conformance with actual bid costs.

- Plan sheets shall be full size, 22” x 34”. Provide a 0.50” margin on the top, bottom and right hand side of the sheet and a 2” margin on the left hand side of the sheet. The compensation value is predicated upon the development of preliminary and final plans for a full size (22” x 34”) plan set.
- The title sheet shall be provided on a matte film with a minimum thickness of 3.5 mils. All other sheets shall be provided on high quality, opaque, white bond paper with a minimum 20-pound weight and a minimum 92% brightness.
- Lettering on plans shall be of adequate size to facilitate a 50% reduction of plans.
- All plans submitted by the Consultant shall conform to the quality standards adopted by DOTD and the DOTD’s Chief Engineer may reject any plans not conforming to these standards.
- Design for Final Plans shall be done in English units of measure.

The Consultant shall provide final roadway plans for the project including, but not limited to:

- Title Sheet
- Typical Section and Details
- Summary of Estimated Quantities and Summary Table Sheets
- Misc. Details & General Notes
- Reference Points and Bench Mark Elevation Sheets
- 1”=50’ Plan/Profile sheets (with subsurface drainage and open ditch drainage)
- Design Drainage Maps
- Summary of Drainage Structures
- Pavement Marking Layout Sheets
- Geometric Layout and Geometric Details
- Graphical Grading (if required)
- Joint Layout (if required)
- Temp. Const. Signs, Suggested Seq. of Construction
- Temporary Erosion Control
- Cross-Sections (earthwork)

STRUCTURAL ENGINEERING – SIGNING AND BARRIERS

As part of the Preliminary and Final Plan Engineering, the consultant will provide engineering and related services to develop construction plans related to structure and support design for the Interstate widening project. The existing I-20 route will be widened and require new median barriers, overhead sign trusses, and new overhead cantilevers in locations that will be affected by the widening.

The scope of work will include engineering services necessary to develop designs related to this work and implement into the preliminary and final construction plans. The following are the tasks and corresponding deliverables necessary to meet the requirements of this scope of work

Design/Evaluation Criteria

The design/evaluation criteria are:

- Provide safe and aesthetically pleasant structures for the traveling public.
- Provide the functionality, durability, corrosion protection, ease of inspection and maintenance.
- All columns shall be protected in accordance with AASHTO LRFD Bridge Design Specifications, where applicable.
- Concrete median barrier shall be 42" tall single slope railing and meet TL-4 test level.
- Develop Median Barrier Transitions for sign truss mounting, highway light pole mountings, bridge pier protection, grade separations.
    - Median barrier details shall be coordinated with Roadway lighting to accommodate the structural components of the light pole, light foundations, structural mounted light pole attachments, barrier mounted structural components, etc.
    - Median Barrier design shall be modified to accommodate grade-separated travel ways, where applicable.
- All guardrails shall meet the current bridge standards.

Task 1: Preliminary Plans

- The Consultant will perform inspections and evaluations of all existing sign trusses and cantilevers along the main line and interchanges within the project limits of the widening.
- The Consultant will review structure inspection reports, as-built drawings and field notes for structural components (ground mounted trusses and cantilevers) that require structural design details.
- The Consultant shall check the adequacy of the DOTD Overhead Traffic Sign Special Details ("BD.2.7.1.0.01 - 16"), [or the updated Standard Plan, if available after advertisement] relative to each new overhead sign support. If the standard design tables and details are insufficient, the consultant shall design and detail a new sign support showing the required member sizes and connections.
- The Consultant will develop and submit the following deliverables to the Project Manager:
    - Preliminary Plans: 60%, 90% and 100%.
    - All submittals prior to the 100% submittal will include a review and comment period. All comments must be addressed before proceeding to the Final Plan Milestone submittal.
- The Consultant will schedule a Plan-In-Hand meeting with Project Manager, HQ Design (Road and Bridge) and District for review, comments, etc. to discuss the plan and address PIH comments after the meeting.

Task 2: Final Plans

- The final plans will determine the total number and type of signs supports that are required.
- The Consultant will develop structural material quantity sheets to be incorporated into the final plans. These material quantity sheets shall include items such as post size, rebar members, bolts, type of concrete, removal items, pay item information for each design supports, etc.
- The Consultant will furnish structural details for all ground and overhead mounted signs, trusses, and cantilevers as well as any footings/substructure, guardrail, etc.
- The Consultant will develop and submit the following deliverables to the Project Manager:
- Final Plans: 60%, 95%, 98% and 100%.
- A 95% Final Plan meeting will follow the 95% Final Plan submittal. Once all comments are addressed to the satisfaction of the Project Manager, District, Bridge Design Section, the consultant shall submit the corrected plan set for review by the Plan Quality Unit for comments. Once these comments are addressed, that will constitute the 98% Submittal that will be submitted to the DOTD Chief Engineer. The 98% Final Plan submittal will be signed and sealed. All comments from the Chief Engineers Office must be addressed prior the 100% Final Plan Submittal.
- Provide responses to all Falcon questions related to the details, quantities, and method of construction of any structural design. If comments from Falcon questions result in a plan revision, the consultant must do so in a timely manner that does not result in a delay of the letting.

Submittal Review

Project submittals, associated schedule, and format shall be established in each task.

Deliverables:

Meetings: As Needed, Plan in Hand, 95% Final Plan Review Meeting
Preliminary Plans: 60%, 90%, 100%
Final Plans: 60%, 90%, 95%, 98%, 100%

- Summary of estimated quantities
- Sign Structural Details
- Median Barrier and transition details

Task 3:

Construction Support for the above, if required, shall be established by a Supplemental Agreement.

STAGE 3: DESIGN - LIGHTING

INTERSTATE LIGHTING

The Consultant shall provide all engineering and related services necessary to provide 30%, 60%, 90%, and 100% roadway lighting plans for the Project.

The Consultant shall provide roadway lighting at any location of pre−existing lighting where the illumination will no longer meet standards or functionality due to modifications of the existing roads, bridges, interchanges, ramps, shoulders, alignment, and geometry, of this project, and replace underpass lighting at I-20 overpasses, which are to be replaced to bring the underpass lighting up to standards. The Consultant shall develop a roadway lighting system at each interchange, if requested, within the Project limits that extend out to interface with adjacent lighting systems. These lighting systems shall be coherent and unified within the Project limits.

Luminaires shall be LED. Light source types shall not be mixed within the same lighting system. All luminaires shall be of the same manufacturer. The LED system shall be capable of networking control, with foundational equipment for networking applied/installed by the Contractor. The lighting design shall minimize light trespass. Glare shall not exceed the maximum value published in the AASHTO Roadway Lighting Design Guide.

The Consultant shall submit a photometric analysis (i.e. illumination) report that includes illumination analysis of all roadways and/or interchanges within the Project limits and shall conform to the required illumination criteria.

The Consultant shall submit the following electrical calculations: Voltage Drop for Service Points, Branch Circuits, etc., Fault Current for Service Points, Conduit Fill for all circuits, and Preliminary Short Circuit and Arc Flash Hazard Analysis Report. Electrical calculations shall be included with each plan submittal.

The Consultant shall also:

1. Perform a FAA evaluation and submit documentation to the FAA as required.

The lighting plans shall include the following but not limited to: the locations of existing equipment/utilities, removal of the existing equipment, and the proposed locations of the new equipment, service points, lighting controllers/panels, safety switches, and receptacles, above or below ground pull and/or junction boxes, conduit, wiring, jacked/bored casing, and luminaires.

The Photometric report shall include but not limited to the following criteria. Additional report information may be requested by DOTD.

1. Full size (22”x34”) PDF and contain multiple sheets as needed for legibility and clarity.
2. A legible point−by−point illuminance−grid (i.e. iso−footcandle) plot of roadway surfaces within the limits of the project. Calculated average foot−candle data points shall be on a maximum 10’x10’ centers, each plotted to 0.00 decimal points.
3. Stationing (matching plan drawings)
4. North arrow
5. Scale bar
6. Travel lanes and shoulders. Travel lanes shall include highway names/route number and vehicular directional arrows
7. Adjacent structures, drainage, driveways, parking spaces, buildings, driveway entrances, sidewalks, vegetation

8. Light pole and luminaire locations schedule
9. Calculated statistical data for:
    a. Average foot−candles
    b. Average−to−minimum ratio
    c. Maximum−to−minimum ratio
    d. Veiling luminance
10. Pole, luminaire and lamp information such as:
    a. Description
    b. Initial lumens
    c. Type
    d. Luminaire .ies file name
    e. Luminaire mounting height
    f. Arm length
    g. Catalog cut sheets
    h. Luminaire iso−illuminance contours
11. Light Loss Factor (LLF)
12. Names of calculations zones shall be used to identify the calculations zones on all illumination layout sheets

The Photometric report and Electrical calculations shall include but not limited to the following general information:

1. Title of the report or calculations
2. Table of Contents (if necessary)
3. Design Engineer's Name, P.E. Number, and Company Name
4. DOTD Project Number and Name
5. Date
6. Louisiana Professional Engineering and Land Surveying Board (LAPELS) "Pocket Card" indicating current status of the Design Engineer's P.E. License registered in the State of Louisiana
7. The designer shall document and provide clips of standard's tables, methods, conversions used, roadway classifications, and any other essential information used to show compliance to standards

Deliverables:

Roadway Lighting Plans
Photometric Report
Electrical calculations

STAGE 3: DESIGN - SIGNING

Permanent Signing

The Consultant shall perform services to deliver a complete Sign plan set. Development of the Sign plan set shall follow and meet requirements provided in the LADOTD Sign Manual,

LADOTD Traffic Engineering Manual and EDSMs. The Sign plan set shall show all signs and supports to be new installations within the construction limits. The signing plans shall address any sign changes required due to the projects construction within 2.5 miles from the beginning and end of construction limits. The overhead supports for signs outside the construction limits are to follow the requirements noted in the LADOTD Sign Manual. Any ground mounted supports outside the construction limits shall be new installations. The Engineering Reasoning and Decision Document (ERDD) shall include the all signs within the 2.5 miles from the beginning and end of construction limits.

ADDITIONAL SERVICES

Stage 0: Feasibility Studies: Interchange Justification Report (IJR) / Interchange Modification Report (IMR), if required, shall be established by a Supplemental Agreement.

Stage 5: Construction Support, if required, shall be established by a Supplemental Agreement.

Construction Support

a. The Consultant shall provide construction engineering support including construction drawing review, shop drawing review, request for information (RFI) support (up to 50), contractor proposals, metal framework, material, etc.
b. The Consultant shall perform change orders and modification to the construction plans during the construction phase if there are discrepancies from task-3a above that resulted from the contractors RFI and field condition.
c. The Consultant will address such deviation in a timely manner and will provide updated plans within 5 working days.

Additional Comments:

- Electronic files will be in MicroStation and pdf formats.
- A project wise folder will be provided for all electronic submittals.

The delivery schedule for all project deliverables will be established by the Project Manager. All work shall be performed in accordance with all applicable DOTD policies, procedures, and manuals.

SERVICES TO BE PERFORMED/ITEMS TO BE PROVIDED BY DOTD

The following services and/or data will be provided, if available:

1. Pavement Design
2. Topographic survey for this Project as completed by DOTD or others. Any additional topographic surveys as necessary to complete the plans shall be performed by DOTD or the Consultant, at the option of DOTD. If performed by the Consultant, such work shall be established by a fully executed Supplemental Agreement or by Extra Work Letter.
3. All subsurface soil investigations and laboratory analyses, including core drillings and borings with laboratory reports, as may be necessary for the design of the Project, in

appropriate form for incorporation in the plans.

4. All information which DOTD has in its files as to location of route, tentative locations of intersections and bridges, boring and test data if any, plans and studies, as-built plans within the area of the Project which may be useful to the Consultant in carrying out this work and assistance in securing similar data from others to the extent available.
5. Environmental Services necessary for Categorical Exclusion, with exception of those listed in Attachment "A" Scope.
6. Standard Plans and Special Details.

ELECTRONIC DELIVERABLES

Consultant hereby agrees to produce electronic deliverables in conformance with DOTD Software and Deliverable Standards for Electronic Plans document in effect as of the effective date of the most recent contract action or modification, unless exempted in writing by the Project Manager. Consultant is also responsible for ensuring that sub-consultants submit their electronic deliverables in conformance with the same standards. DOTD Software and Deliverable Standards for Electronic Plans document and DOTD CAD Standards Downloads are available via links on the DOTD web site.

Consultant shall apply patches to CAD Standard Resources and install incremental updates of software as needed or required. Consultant hereby agrees to install major updates to software versions and CAD Standard Resources in a timely manner. Major updates of CAD standards and software versions shall be applied per directive or approval of the DOTD Design Automation Manager. Such updates will not have a significant impact on the plan development time or project delivery date, nor will they require Consultant to purchase additional software. Prior to proceeding with plan development, Consultant shall contact the Project Manager for any special instructions regarding project-specific requirements.

In the event that any Digital Plan Delivery Standard conflicts with written documentation, including DOTD plan-development Manuals, the Digital Plan Delivery Standard governs. Consultant is responsible for contacting the Project Manager should questions arise.

Consultant shall upload (or check in) electronic deliverables directly into the DOTD ProjectWise repository at each plan delivery milestone. Consultants are responsible for performing certain operations at each milestone including, but not limited to, the following:

- Upload (or check in) CAD plan deliverables to the discipline "Plans" folder
- Apply and maintain indexing attributes to CAD plans (and other deliverables as needed)
- Publish PDF format plan submittals in ProjectWise using automated publishing tools
- Digitally sign PDF format plan submittals in ProjectWise according to DOTD standards and procedures (Final Plans, Revisions and Change Orders). Signatures shall be applied in signature blocks provided with electronic seals and Title Sheets.

Additionally, after reviewing deliverables for each submittal milestone, the Project Manager shall notify Consultant regarding the availability of two automatically-generated informational reports in ProjectWise. These reports document the completion status and other information regarding indexing attributes and CAD standards. Consultants shall take these reports into account and make any necessary adjustments to plans before the next submittal milestone; or sooner, if directed by the Project Manager.

SPECIFIC SOFTWARE AND / OR EQUIPMENT DESIRED

- Electronic files will be in MicroStation and Inroads formats. Plans shall be CADD Conformed and stored in ProjectWise.

ATTACHMENT B – MINIMUM PERSONNEL REQUIREMENTS (MPRs)

The following requirements must be met at the time the proposal is submitted:

1. At least one (1) principal of the prime consultant shall be a registered professional engineer in the state of Louisiana.
2. At least one (1) principal or other responsible member of the prime consultant shall be currently registered in the state of Louisiana as a professional engineer in civil engineering
3. At least one (1) principal or responsible member of the prime consultant shall be a professional civil engineer, registered in the state of Louisiana, and shall have a minimum of ten (10) years of experience in responsible charge of roadway design.
4. At least one (1) professional civil engineer, registered in the state of Louisiana, and shall have a minimum of five (5) years of experience in structural design.
5. At least one (1) professional electrical engineer, registered in the state of Louisiana, shall have a minimum of five (5) years of experience designing roadway lighting.
6. At least one (1) professional civil engineer, PTOE, registered in the state of Louisiana, shall have a minimum of five (5) years of traffic analysis experience.
7. At least one (1) environmental professional shall have a minimum of five (5) years of experience in wetland delineation.

MPRS ARE TO BE MET BY SEPARATE INDIVIDUALS OF THE PRIME CONSULTANT, UNLESS STATED OTHERWISE BELOW.

MPR Nos. 1 through 3 may be met by the same person.

MPR Nos. 4 through 7 may be satisfied through the use of a sub-consultant(s).

NOTE: WHEN SATISFYING A MINIMUM PERSONNEL REQUIREMENT, PLEASE ENSURE THE RÉSUMÉ REFLECTS REQUIRED EXPERIENCE AS REQUESTED.

- Please note the number of MPRs are minimal; however, all relevant personnel necessary to perform the Scope of Services must be identified in Section 14 of the DOTD Form 24-102 and their resumes included in Section 16 of the DOTD Form 24-102.