

CHECKLIST TO DESIGNATE AREAS OF EVALUATION FOR REQUESTS FOR PROPOSAL (RFP)

	REQUISITION NUMBER	DUE DATE	TIME DUE
MDOT PROJECT MANAGER	JOB NUMBER (JN)	CONTROL SECTION (CS)	

DESCRIPTION

MDOT PROJECT MANAGER: Check all items to be included in RFP			CONSULTANT: Provide only checked items below in proposal
WHITE = REQUIRED ** = OPTIONAL Check the appropriate Tier in the box below			
<input type="checkbox"/> TIER I (\$50,000 - \$150,000)	<input type="checkbox"/> TIER II (\$150,000-\$1,000,000)	<input type="checkbox"/> TIER III (>\$1,000,000)	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Understanding of Service **
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Innovations</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Organizational Chart
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Qualifications of Team
Not required as part of Official RFP	Not required as part of Official RFP	<input type="checkbox"/>	Quality Assurance/Quality Control **
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location: The percentage of work performed in Michigan will be used for all selections unless the project is for on-site inspection or survey activities, then location should be scored using the distance from the consultant office to the on-site inspection or survey activity.
N/A	N/A	<input type="checkbox"/>	Presentation **
N/A	N/A	<input type="checkbox"/>	Technical Proposal (if Presentation is required)
3 pages (MDOT Forms not counted)	7 pages (MDOT Forms not counted)	14 pages (MDOT forms not counted)	Total maximum pages for RFP not including key personnel resumes. Resumes limited to 2 pages per key staff personnel.

PROPOSAL AND BID SHEET EMAIL ADDRESS – mdot-rfp-response@michigan.gov

GENERAL INFORMATION

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by the Project Manager at least five (5) working days prior to the due date and time specified above. All questions and answers will be placed on the MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal.

MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION

5100D – Request for Proposal Cover Sheet

5100J – Consultant Data and Signature Sheet (Required for all firms performing non-prequalified services on this project.)

(These forms are not included in the proposal maximum page count.)

REQUEST FOR PROPOSAL

The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest (Consultant/Vendor Selection Guidelines for Services Contracts) **AA**

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RFP SPECIFIC INFORMATION

ENGINEERING SERVICES BUREAU OF TRANSPORTATION PLANNING OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS
 NO YES DATED _____ THROUGH _____

<input type="checkbox"/> Prequalified Services – See the attached Scope of Services for required Prequalification Classifications.	<input type="checkbox"/> Non-Prequalified Services – If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, is on file with MDOT’s Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed. Form 5100J is required with proposal for all firms performing non-prequalified services on this project.
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Qualification Based Selection - Use Consultant/Vendor Selection Guidelines.

For all Qualifications Based Selections, the selection team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

For a cost plus fixed fee contract, the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor’s job-order accounting system.

Qualification Based Selection / Low Bid – Use Consultant/Vendor Selection Guidelines. See Bid Sheet instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted. The vendor that has met established qualification threshold and with the lowest bid will be selected.

Best Value – Use Consultant/Vendor Selection Guidelines, See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

Low Bid (no qualifications review required – no proposal required.)

BID SHEET INSTRUCTIONS

Bid Sheet(s) are located at the end of the Scope of Services. Submit bid sheet(s) with the proposal, to the email address: mdot-rfp-response@michigan.gov. Failure to comply with this procedure may result in your bid being rejected from consideration.

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PARTNERSHIP CHARTER AGREEMENT

MDOT and ACEC created a Partnership Charter Agreement which establishes guidelines to assist MDOT and Consultants in successful partnering. Both the Consultant and MDOT Project Manager are reminded to review the [ACEC-MDOT Partnership Charter Agreement](#) and are asked to follow all communications, issues resolution and other procedures and guidance’s contained therein.

**NOTIFICATION
MANDATORY ELECTRONIC SUBMITTAL**

Proposals submitted for this project must be submitted electronically.

The following are changes to the Proposal Submittal Requirements:

- Eliminated the Following Requirements:
 - Safety Program
 - Communication Plan
 - Past Performance as *a separate section*
 - Separate section for DBE Statement of goals. Include information in Qualification of Team section

- Implemented the Following Changes:
 - All proposals require an Organization Chart
 - Resumes must be a maximum of two pages
 - Only Key (lead) staff resumes may be submitted
 - Tier III proposal reduced from 19 to 14 pages
 - Forms 5100D, 5100I, and 5100G combined – 5100D
 - Forms 5100B and 5100H combined – 5100B
 - RFP's will be posted on a weekly basis -- on Mondays

The following are Requirements for Electronic Submittals:

- Proposals must be prepared using the most current guidelines
- The proposal must be bookmarked to clearly identify the proposal sections (See Below)
- For any section not required per the RFP, the bookmark must be edited to include “N/A” after the bookmark title.
Example: Understanding of Service – N/A
- Proposals must be assembled and saved as a single PDF file
- PDF file must be 5 megabytes or smaller
- PDF file must be submitted via e-mail to MDOT-RFP-Response@michigan.gov
- MDOT's requisition number and company name must be included in the subject line of the e-mail. The PDF shall be named using the following format:
 - Requisition#XXX_Company Name.PDF
- MDOT will not accept multiple submittals
- Proposals must be *received* by MDOT on or before the due date and time specified in each RFP

If the submittals do not comply with the requirements, they may be determined unresponsive.

The Consultant's will receive an e-mail reply/notification from MDOT when the proposal is received. Please retain a copy of this e-mail as proof that the proposal was received on time. **Consultants are responsible for ensuring the MDOT receives the proposal on time.**

****Contact Contract Services Division immediately at 517-373-4680 if you do not get an auto response****

Required Bookmarking Format:

- I. Request for Proposal Cover Sheet Form 5100D
 - A. Consultant Data and Signature Sheet, Form 5100J (if applicable)
- II. Understanding of Service
 - A. Innovations
- III. Qualifications of Team
 - A. Structure of Project Team
 - 1. Role of Firms
 - 2. Role of Key Personnel
 - B. Organization Chart
 - C. Location
- IV. Quality Assurance / Quality Control Plan
- V. Resumes of Key Staff
- VI. Pricing Documents/Bid Sheet (if applicable)

2/14/12

**NOTIFICATION
E-VERIFY REQUIREMENTS**

E-Verify is an Internet based system that allows an employer, using information reported on an employee's Form I-9, Employment Eligibility Verification, to determine the eligibility of that employee to work in the United States. There is no charge to employers to use E-Verify. The E-Verify system is operated by the Department of Homeland Security (DHS) in partnership with the Social Security Administration. E-Verify is available in Spanish.

The State of Michigan is requiring, under Public Act 200 of 2012, Section 381, that as a condition of each contract or subcontract for construction, maintenance, or engineering services that the pre-qualified contractor or subcontractor agree to use the E-Verify system to verify that all persons hired during the contract term by the contractor or subcontractor are legally present and authorized to work in the United States.

Information on registration for and use of the E-Verify program can be obtained via the Internet at the DHS Web site: <http://www.dhs.gov/E-Verify>.

The documentation supporting the usage of the E-Verify system must be maintained by each consultant and be made available to MDOT upon request.

It is the responsibility of the prime consultant to include the E-Verify requirement documented in this NOTIFICATION in all tiers of subcontracts.

9/13/12

Michigan Department of Transportation

SCOPE OF SERVICE

FOR

SPECIALTY SERVICES

Transportation Surveys (Mobile LiDAR) for Asset Mapping

Revised 2/29/2016 to reflect new tier

CONTROL SECTION: Various

JOB NUMBER: 128189

PROJECT LOCATION: Various locations in Southwest Region

PROJECT DESCRIPTION: The selected consultant will perform Mobile LiDAR data collection for various MDOT recently constructed routes in Southwest Region. The consultant will provide access to the data via a web-based hosted solution.

ANTICIPATED START DATE: February 1, 2016

ANTICIPATED COMPLETION DATE: January 31, 2017

PRIMARY PREQUALIFICATION CLASSIFICATION:

N/A

SECONDARY PREQUALIFICATION CLASSIFICATION:

N/A

DBE REQUIREMENT: N/A

PREFERRED QUALIFICATIONS AND EXPERIENCE:

Land Surveyor – Experience with mass geospatial data collection, MDOT Survey Standards, MDOT Design and Construction Standards, GIS data collection, remote sensing techniques, geodetic control, field safety principles.

Geographic Information System (GIS) Specialist - Experience in using current ESRI software (or equivalent), creation and management of geospatial data, management of imagery and LiDAR data, interoperability experience with common civil engineering applications, experience with configuring and managing web-based data hosting solutions.

INNOVATION:

The consultant will list any potential innovations and/or innovative approaches to completing this project. At a minimum, innovations should specifically address mass geospatial data collection, data accessibility, creation and management of geospatial data and integration of geospatial data with asset data.

MDOT PROJECT MANAGER:

John Lobbestael
Supervising Land Surveyor
Central Office
Survey Support
425 W. Ottawa
P.O. Box 30050
Lansing, MI 48909
Phone : 517-335-5550
Fax Number
E-mail : lobbestaelj@michigan.gov

The Consultant must contact the Project Manager prior to beginning any work on this Project.

GENERAL INFORMATION:

This is a pilot project intended to provide Mobile LiDAR data collection on various MDOT routes in Southwest Region. The collection will focus on recently constructed areas, for which asset collection has not previously occurred. The project vendor will also provide a solution by which the LiDAR and imagery data can be stored and accessed remotely via web access. The solution will provide the ability to synchronize the user's view point with the corresponding point cloud, assets and co-acquired imagery while providing ability to visualize and perform limited measurements and functions on the web-based portal.

Background

MDOT completed its first Mass Geospatial Data Acquisition project with Mobile LiDAR in 2015 (Job Number 121383/125008), collecting ~76 miles of LiDAR and imagery data with a primary objective to, “ Determine the value of Mobile LIDAR Collection to MDOT’s asset management, collection and planning and design data collection process.” This project was moderately successful and solidified the need to enhance data accessibility when data of this type and magnitude is collected. Further, MDOT recognized the potential for post construction as-built surveys with this technology, leading to this Phase II Mass Geospatial Data Acquisition project.

Objectives

The primary objectives for this pilot project are as follows:

- ✓ Demonstrate the value of post-construction Mobile LiDAR collection to MDOT’s Planning and Design data collection processes. The collection will have varied segments representing suburban, rural freeway, rural 2 lane, downtown and rural interchange scenarios.
- ✓ Demonstrate the value of data accessibility via a hosted, web-based portal for LiDAR, imagery and asset information.
- ✓ Develop recommendations for use on future post-construction, as-built projects utilizing mobile LiDAR.

WORK:

Planning & Field Collection

The field collection will utilize ground based Mobile LiDAR. The collection must be completed with a fully integrated mobile LiDAR system consisting of Laser Scanner(s), L1 & L2 GPS + GNSS Antenna(s) & Receiver(s), Inertial Measurement Unit and Digital Cameras. The camera array must have 360° coverage horizontally. The camera array must have a total of 270° - 300° vertical coverage extending to 60° below the horizontal plane.

At a minimum the Mobile LiDAR unit must be capable of collecting engineering grade data at a 1A Level, as specified in Table 1 of NCHRP Report 748, Guidelines for the Use of Mobile LiDAR. MDOT realizes that the absolute spatial quality of the data collected may not achieve 1A quality, however, the collection unit must be capable of such.

The Consultant should refer to the 2014 MDOT Standards of Practice for Design Surveys, Appendix D – Mobile Terrestrial LiDAR (MTL) Standards and Guidelines and NCHRP Report 748, Guidelines for the Use of Mobile LiDAR, in performing this project.

Prior to collection the consultant will develop a field collection work plan for presentation to the Project Manager. The work plan will detail:

- ✓ Routes to be covered
- ✓ Proposed drive paths and number of trajectories to be run on each route
- ✓ Times of collection
- ✓ Collection specifications
- ✓ Mobile LiDAR Unit Calibration report(s)
- ✓ Quality Control and Quality Assurance Measures to be employed for field collection

Collection Requirements:

- ✓ LiDAR Acquisition must include image collection along the trajectory routes to colorize the point cloud and to aid with feature identification and attribution. The images must be indexed and delivered with the LiDAR data. Colorization of the point cloud must occur prior to delivery. Please note that application of RGB values is not considered a substitute for intensity values.
- ✓ The following units of measure are to be used:
 - Distance Measure : International Feet
 - Angular Measure : degrees, minutes and seconds
 - Horizontal Datum : State plane GRID coordinates for Michigan South Zone (2113), NAD 83 (2011)
 - Vertical Datum : NAVD 88
 - Geoid Model : Geoid 2012A
- ✓ LiDAR Acquisition must be collected with coupled IMU / GNSS data for trajectory processing.

- GPS GNSS Data must be RTK processed against a base station or CORS station
- The baseline length must not exceed 10 miles
- The resulting trajectory solution must result from the combination of a forward and reverse processing solution.
- ✓ Multiple passes must be employed in areas where obstructions occur due to traffic or parked vehicles to ensure transportation assets are visible.
- ✓ Completed when pavement is dry and not obscured by snow.
- ✓ Completed at or near traffic speeds to avoid impeding traffic while ensuring adequate spacing from surrounding traffic to avoid obstructions.

Quality Control Requirements

- ✓ Ground validation points (VP) and/or local transformation points (LTP) must be placed prior to collection. The targeting materials and layout scheme must be pre-approved by the Project Manager.
- ✓ The following layout scheme will be utilized:

Target Layout Scheme	Apply to X number of segments	Local Transformation Points	Validation Points
A-Modified	All	1 Pair at each end of segment – Method of establishment : Relative to project control	5 Per Mile –RTK Validation

- ✓ RTK observations on the validation points must be observed in compliance with “Appendix A” of the 2014 MDOT Standards of Practices for Surveying – MDOT Real Time Kinematic GPS Standards, for photo control.
- ✓ Provide a National Standard for Spatial Data Accuracy (NSSDA) type report showing the proximity of the validation targets to the final point cloud.
- ✓ Prior to data extraction a copy of the project trajectory reports comparing the forward and reverse trajectory processing must be analyzed. The MDOT Project Manager should be notified of the completed trajectory processing and provided with a report of the results prior to extraction of data.

Collection Locations:

Data collection will focus on recently completed construction projects in MDOT’s Southwest Region, described on the following list:

Route Name	Location	Easting_Beginning	Northing_Beginning	Easting_End	Northing_End
I-196 NB	AT I-196 BL (PHOENIX RD. EXIT 20)	12614116.79	334987.48		
I-94	Under Sprinkle Road in Kalamazoo	12808214.19	279759.19	12807439.21	278243.43
I-94	Under Sprinkle Road in Kalamazoo	12808209.04	278966.22	12808220.78	280533.11
I-94	Under Sprinkle Road in Kalamazoo	12806775.57	277552.77	12808196.83	278112.47
I-94	Under Sprinkle Road in Kalamazoo	12806316.09	277230.46	12809585.55	280189.94
I-94	Under Sprinkle Road in Kalamazoo	12808630.45	278984.94	12809973.34	279083.58
I-94	Under Sprinkle Road in Kalamazoo	12806375.25	277168.60	12807815.63	278529.09
I-94	Under Sprinkle Road in Kalamazoo	12808204.80	278316.53	12807815.63	278529.09
I-94	Under Sprinkle Road in Kalamazoo	12808186.76	277591.64	12808208.13	278881.88
I-94	Under Sprinkle Road in Kalamazoo	12807069.74	279078.05	12809973.34	279083.58
I-94	Under Sprinkle Road in Kalamazoo	12809011.23	279639.62	12809621.36	280149.97
I-94 BL	Glenlord Road to Pearl Street	12540056.91	205511.27	12549018.84	228006.30
I-94 BL	11th Street to Seneca Lane, Kalamazoo	12774669.16	282666.44	12774887.54	282995.94
I-94 BL	11th Street to Seneca Lane, Kalamazoo	12775945.73	283008.35	12774834.90	283816.94
I-94 BL	11th Street to Seneca Lane, Kalamazoo	12774973.87	283081.91	12775335.55	282844.66
I-94 BL	11th Street to Seneca Lane, Kalamazoo	12774990.60	282447.82	12774669.16	282666.44
I-94 BL	11th Street to Seneca Lane, Kalamazoo	12774745.97	283772.55	12774260.24	282556.83
I-94 BL	11th Street to Seneca Lane, Kalamazoo	12775282.18	282830.53	12775055.96	282550.11
I-94 BL	11th Street to Seneca Lane, Kalamazoo	12774160.01	282523.53	12775207.27	281177.07
I-94 BL	11th Street to Seneca Lane, Kalamazoo	12774160.01	282523.53	12777724.75	283385.62
I-94 WB	0.7 miles East of CR 687 to 0.8 miles West of M-51	12666793.47	258477.65	12666911.79	258985.47
I-94 WB	0.7 miles East of CR 687 to 0.8 miles west of M-51	12639289.55	257857.37	12686005.94	257552.97
I-94 WB	0.7 miles East of CR 687 to 0.8 miles West of M-51	12686005.94	257552.97	12687482.32	258096.05
I-94 WB	0.7 miles East of CR 687 to 0.8 miles West of M-51	12666912.19	259022.61	12665420.40	258539.42
I-94 WB	0.7 miles East of CR 687 to 0.8 miles West of M-51	12638640.41	257814.13	12639289.55	257857.37
M-139	Over St. Joseph River, Niles	12607349.77	126007.75		
M-140	Dan Smith Road to Watervliet North City Limits	12609630.72	250426.48	12612396.38	261917.36
M-216	On M-40 and M-216 in the Village of Marcellus	12729758.25	192884.03	12727155.77	195477.95
M-216	On M-40 and M-216 in the Village of Marcellus	12729779.50	195428.33	12744193.62	193877.54
M-227	S. Kalamazoo Ave., Industrial Dr., and West Dr.	12956301.94	280301.64	12956303.44	281699.65
M-227	S. Kalamazoo Ave., Industrial Dr., and West Dr.	12961731.64	271107.76	12961628.56	279792.92
M-227	S. Kalamazoo Ave., Industrial Dr., and West Dr.	12961628.56	279792.92	12956301.94	280301.64
M-331	Parkwood Street North to Michigan Avenue	12792347.38	283210.70	12793085.43	290875.20
M-37	Hanover Street to M-43 (State Street)	12876785.07	418961.39	12874768.18	418965.19
M-37	South of Green Street to South of M-79	12879995.00	405612.03	12879930.91	406851.61
M-37	South of Green Street to South of M-79	12879930.91	406851.61	12876785.15	418929.37
M-37	Hanover Street to M-43 (State Street)	12874768.18	418965.19	12874767.71	419893.12
M-37	South of Green Street to South of M-79	12876785.62	418731.85	12876785.07	418961.39
M-43	From Riverview Drive to Tiburon Lane	12797986.80	294223.62	12827624.45	319622.36
M-43	M-37/M-43 (State Street) to North Street	12874767.20	419983.97	12874810.45	427031.19
M-60	In the Village of Mendon	12824423.23	186486.99	12829221.15	186549.06
M-60	Within the Village of Homer	13000734.76	236358.94	13005141.83	236086.41
M-66	M-66: Pearl St.-Brumm Rd, M-79: M-66-WVL Nashville	12927568.92	400816.10	12927742.54	405581.86
M-66	M-66: Pearl St.-Brumm Rd, M-79: M-66-WVL Nashville	12924640.95	401135.56	12927604.20	401659.07
M-89	West of US-131 to East of 8th St. in Plainwell	12778769.75	346182.95	12785176.83	346153.54
M-89	West of US-131 to East of 8th St. in Plainwell	12774616.08	348818.48	12779160.46	346185.69
M-89	West of US-131 to East of 8th St. in Plainwell	12784466.51	342570.35	12784490.35	346159.80
M-89	West of US-131 to East of 8th St. in Plainwell	12775441.12	348840.45	12775540.71	348494.23
M-89	West of US-131 to East of 8th St. in Plainwell	12775216.91	348421.75	12775035.73	348709.34
M-89	Augusta Drive to Custer Drive	12872305.66	316206.06	12878247.85	314254.35
M-99	From M-60 to South Village limits of Homer.	13003439.81	232207.33	13003390.37	236057.33
US-12	WCL of New Buffalo to turn at Red Arrow Highway	12481498.98	118540.90	12484407.09	117835.82
US-12	WCL of New Buffalo to turn at Red Arrow Highway	12471785.59	114554.38	12481498.98	118540.90
US-131	North of US-12 through Constantine	12767459.61	129182.21	12770165.14	142097.66
US-131	St. Joseph County	12767459.61	129182.21	12770136.29	133722.69
US-131	North of US-12 through Constantine	12769984.38	112641.20	12767267.23	129446.72
US-131	CN Railroad to Lyons Street in Schoolcraft	12778615.90	224821.03	12778607.64	229109.48
US-131	St. Joseph County	12770024.06	115387.43	12767267.23	129446.72
US-131	Under I-94 BL (Stadium Drive)	12775028.66	282758.77		

Table 1 : Collection locations with Northing, Easting relative to Michigan State Plane Coordinate System Zone 2113 (Int. Feet).

The collection locations achieved will vary based on cost limitations negotiated as a fixed fee variable scope, where data collection is limited to \$70,000.00. The consultant will propose the routes to be covered from the above list to the project manager prior to commencement of data collection. MDOT will furnish a .shp file outlining specific project extents at time of project commencement.

Data Storage & Accessibility:

- ✓ The consultant will provide a web-accessible solution for hosting of LiDAR, Imagery and asset data with the following characteristics:
 - The solution will provide secure access to user determined by MDOT
 - MDOT will have the ability to enroll / monitor access
 - The solution will provide viewer capabilities of imagery, LiDAR and assets independently and or simultaneously in a synchronized manner
 - The solution should provide user ability to extract asset location and add/edit asset attribute information. Engineering extraction of 3D linework is not required.
 - The solution should provide the user with the ability to draw a polygon and trigger an e-mail work-order for engineering extraction
 - The solution should be capable of interoperability with common GIS/ESRI formats
 - The solution should host .LAZ/.LAS (or comparable) LiDAR data
 - The solution should host .JPEG, .JPEG2000, E57 (or comparable) imagery data
 - The solution should provide hosted data storage and utilize logical indexing
 - The solution should remain in operation until 1 year after project completion. Maintenance and upkeep of the web-based portal and storage will not be covered by the Department during this period.

In order to minimize the effects of current network speed and security access bottlenecks, the web- or cloud-based hosting solution should provide rapid transmission and loading of compressed data. A scalable solution will only download the data resolution needed, similar to WMS streaming imagery access, while concurrently utilizing predictive downloading of data to a local cache for faster retrieval. Storing the data in pre-processed tiles, rather than using on-demand processing will also help access speed.

The data should be retrievable by using any of these: geographic location, footprint delineation, graphical index, collection (text-based “contents” index), date.

Data from related or adjacent projects must be able to be loaded/viewed concurrently.

Report:

The consultant will prepare a report summarizing the project activities and the hosting solution provided. Key components of the report will include:

- ✓ Recommended key considerations and scope language to use for post-construction LiDAR as-builts, as it pertains to control, data collection, QA measures, plan comparisons, etc.
- ✓ Recommended enterprise requirements for optimal solutions to enhance data accessibility such as hardware and IT infrastructure.
- ✓ Issues encountered
- ✓ Considerations for the future with respect to enterprise implementation of post construction as-builts and data accessibility
- ✓ Any other noteworthy findings, innovations presented on this project and/or other considerations.

Progress Reports:

The Consultant shall submit a monthly project progress report to the MDOT Project Manager. The progress report shall address the following items:

- ✓ Work accomplished during the previous reporting period.
- ✓ Anticipated work and goals for the coming weeks or month.
- ✓ Real problems which occurred during the month, and anticipated problems for the coming reporting period.
- ✓ Any updates on the project schedule including explanations for any delays or changes in schedule, scope, or work plan.
- ✓ Any early reviews or submittals.

Deliverables:

In addition to the above mentioned web-based hosting solution, report and monthly progress reports the consultant will provide the following to MDOT on 4 duplicate hard drives at time of project completion:

- ✓ All LiDAR point cloud data, imagery, raw data and reports in native electronic format.
 - The data will be the exclusive property of the Department, where the consultant will not be permitted to license or re-sell the data without the express consent of the department.

GENERAL REQUIREMENTS:

1. Consultants must obtain all necessary permits required to perform this survey on any public and/or private property, including an up-to-date permit from the MDOT Utilities Coordination and Permits Section. The **Consultant shall be responsible for obtaining up to date access permits** and pertinent information for any tasks involving work within the MDOT Right of Way (ROW).
2. The Consultant must adhere to all applicable OSHA and MIOSHA safety standards, including use of the appropriate traffic signs for the activities and conditions for this job.

CONSULTANT PAYMENT – Actual Cost Plus Fixed Fee:

Compensation for this project shall be on an **actual cost plus fixed fee** basis. This basis of payment typically includes an estimate of labor hours by classification or employee, hourly labor rates, applied overhead, other direct costs, subconsultant costs, and applied fixed fee. The fixed fee for profit allowed for this project is 11.0% of the cost of direct labor and overhead.

All billings for services must be directed to the Department and follow the current guidelines. The latest copy of the "Professional Engineering Service Reimbursement Guidelines for Bureau of Highways" is available on MDOT's website. This document contains instructions and forms that must be followed and used for billing. Payment may be delayed or decreased if the instructions are not followed.

Payment to the Consultant for services rendered shall not exceed the maximum amount unless an increase is approved in accordance with the contract with the Consultant. Typically, billings must be submitted within 60 days after the completion of services for the current billing. The final billing must be received within 60 days of the completion of services. Refer to your contract for your specific contract terms.

Direct expenses, if applicable, will not be paid in excess of that allowed by the Department for its own employees in accordance with the State of Michigan's Standardized Travel Regulations. Supporting documentation must be submitted with the billing for all eligible expenses on the project in accordance with the Reimbursement Guidelines. The only hours that will be considered allowable charges for this contract are those that are directly attributable to the activities of this project.

MDOT will reimburse the consultant for vehicle expenses and the costs of travel to and from project sites in accordance with MDOT's Travel and Vehicle Expense Reimbursement Guidelines, dated May 1, 2013. The guidelines can be found at http://www.michigan.gov/documents/mdot/Final_Travel_Guidelines_05-01-13_420289_7.pdf?20130509082418. MDOT's travel and vehicle expense reimbursement policies are intended primarily for construction engineering work. Reimbursement for travel to and from project sites and for vehicle expenses for all other types of work will be approved on a case by case basis.

MDOT will pay overtime in accordance with MDOT's Overtime Reimbursement Guidelines, dated May 1, 2013. The guidelines can be found at http://www.michigan.gov/documents/mdot/Final_Overtime_Guidelines_05-01-13_420286_7.pdf?20130509081848. MDOT's overtime reimbursement policies are intended primarily for construction engineering work. Overtime reimbursement for all other types of work will be approved on a case by case basis.