

Michigan Department of Transportation Consultant Prequalification Application Review Form			COLUMN FOR INTERNAL USE ONLY
Classification:	<b>Surveying: Geodetic Control and Leveling</b>		
Consultant:			
Procedural Evaluator:	Michael C. Meddaugh	Email: <a href="mailto:MeddaughM@michigan.gov">MeddaughM@michigan.gov</a>	
Technical Evaluator:	Karl Brandys	Email: <a href="mailto:BrandysK1@michigan.gov">BrandysK1@michigan.gov</a>	
Authority to do Business:	Vendor has provided a legible copy of their Articles of Incorporation, Articles of Organization, Certificate of Assumed Name, or Certificate of Authority to Transact Business in Michigan.		PASS <input type="checkbox"/> FAIL <input type="checkbox"/>
Financial Information:	A copy of the vendor's financial information as required by the Office of Commission Audit has been provided.		PASS <input type="checkbox"/> FAIL <input type="checkbox"/>
Management Structure:	Vendor has provided an explanation of the management structure and ownership with related information including a list of all principals and their titles.		PASS <input type="checkbox"/> FAIL <input type="checkbox"/>
2/3rds Licensure:	A copy of each principal's professional license has been provided. If the applying consultant is contracting to provide professional Architecture, professional Engineering, or professional Surveying services, at least 2/3rds of the of the firm's principal's must be licensed in Michigan in one or more of these professions (Article 20 of the Occupational Code, P.A. 299 of 1980, as amended).		PASS <input type="checkbox"/> FAIL <input type="checkbox"/>
Professional Liability Insurance:	Vendor has provided proof of professional liability insurance with minimum limits of one million dollars (\$1,000,000) per occurrence.		PASS <input type="checkbox"/> FAIL <input type="checkbox"/>
<b>Supplied Key Staff</b>			
	Primary Résumé:	Supplemental Résumé (Optional):	
Project Manager/ Professional Surveyor 1:	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>		PASS <input type="checkbox"/> FAIL <input type="checkbox"/>
Project Manager/ Professional Surveyor 2:	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>		
Survey Crew Chief:	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>		PASS <input type="checkbox"/> FAIL <input type="checkbox"/>
<b>Quality Assurance Measures</b>			
QA/QC Plan:	Vendor has provided an overview of how they assure their customers receive quality products and services.		PASS <input type="checkbox"/> FAIL <input type="checkbox"/>
Safety Policies:	Vendor has provided a survey safety policy that addresses: <ul style="list-style-type: none"> <li>• Personal Protective Equipment</li> <li>• Work Zone procedures for maintaining traffic</li> <li>• Worker safety language</li> <li>• OSHA/MIOSHA Regulations</li> <li>• Emergency plan for a typical or actual project</li> </ul>		PASS <input type="checkbox"/> FAIL <input type="checkbox"/>

Prequalification Classification:	<h1>Surveying: Geodetic Control and Leveling</h1>	<b>COLUMN FOR INTERNAL USE ONLY</b>
Definition / Use Statements:	<p>Establish horizontal geodetic control meeting Federal Geodetic Control Subcommittee (FGCS) 1st Order standards or better, and / or geodetic vertical control by differential leveling techniques meeting FGCS 2nd Order Class 1 standards or better.</p> <p>This classification is intended for the following applications:</p> <ul style="list-style-type: none"> <li>• Establishment of complex horizontal geodetic control networks, for which the data is to be submitted to and accepted by NOAA's National Geodetic Survey.</li> <li>• Establishment of vertical control marks for densification of the National Spatial Reference System.</li> <li>• Height Modernization.</li> <li>• Re-establishment of NGS marks.</li> </ul> <p>This classification is not intended for establishment of project control networks.</p>	
Registrations / Certifications:	Minimum of one (1) Professional Surveyor Licensed in Michigan	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>
Equipment / Software:	<p>Provide a document certifying that you currently own and that your staff is trained to use the software/equipment listed below (Note that each version of software must be identified and must be MDOT's current version):</p> <p>Level(s) – Digital levels meeting FGCS First Order Standards</p> <p>GPS Receivers (minimum 4) – Dual Frequency (2004 or newer) and associated processing software.</p> <p>Least Squares Adjustment Software – MDOT Approved – Horizontal and Vertical</p> <p>Fixed Height GPS Tripods</p> <p>Two (2) – 3 Meter level rods with struts, calibrated and loaded in the NGS database, and other leveling accessories meeting FGCS first order Standards detailed in the document FGCSVERT (Version 4.1 05/24/2004) or later. A calibration certificate must be presented at time of price proposal in digital format (RI LOAD).</p> <p>Current version of following NGS Applications:</p> <ul style="list-style-type: none"> <li>• WinDesc</li> <li>• Translev</li> <li>• ADJUST and UTILITIES</li> <li>• PAGES</li> <li>• LOCUS</li> <li>• OPUS</li> </ul>	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>
Resources / Manuals:	<p>Provide a document certifying your firm has access to current versions of the following and that you have staff that is knowledgeable in the use of these items:</p> <p>FGCSVERT (Version 4.1 05/24/2004)</p> <p>NOAA Manual NOS NGS 5 <i>State Plane Coordinate System of 1983 (March 1990)</i></p> <p>American Congress on Surveying and Mapping and the American Society of Civil Engineers <i>Definitions of Surveying and Associated Terms</i></p> <p>National Spatial Data Infrastructure <i>Geospatial Positioning Accuracy Standards Part 3, National Standards for Spatial Data Accuracy, FGCD-STD-007.3-1998</i></p> <p>NOAA Manual NOS NGS 3, <i>Geodetic Leveling (August 1981, Reprinted June 2001)</i>.</p> <p>Bench Mark Reset Procedures by Curtis L. Smith, NGS, September 2010.</p> <p>NOAA Technical Memorandum NOS NGS-58 <i>Guidelines for Establishing GPS-Derived Ellipsoid Heights</i>, Version 4.3 (November 1997)</p> <p>NOAA Technical Memorandum NOS 59, <i>Guidelines for Establishing GPS-Derived Orthometric Heights</i> (26 March 2008)</p>	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>

Key Staff Requirements:

Resumes for Key Staff and Support Staff are limited to two (2) pages per person and must include the level of education completed, a listing of recent projects with the name of the client, project description, location, service cost, staff member's role on the project, firm's role on the project, as well as the name and phone number of the client representative. All projects listed must demonstrate current knowledge related to this classification, MDOT and AASHTO standards, as well as proper use of the equipment, software, resources and manuals listed above. Preference will be given to projects completed for the Michigan Department of Transportation.

**Professional Surveyor in responsible charge / Project Manager**

Vendor has provided a minimum of two (2) résumés, of which one (1) is a Michigan Licensed Professional Surveyor, detailing the following:

- Michigan PS License number, if applicable
- Knowledge of Michigan Professional Surveying
- Knowledge of MDOT standards and procedures used in Geodetic Control and leveling
- Résumé(s) demonstrate relevant CADD experience, if applicable
- Provided résumés list a minimum of five (5) projects completed within the past ten (10) years

**Survey Crew Chief**

Vendor has provided a minimum of one (1) résumé, detailing the following:

- Michigan PS License number, if applicable
- Document experience in charge of a survey crew
- Knowledge of MDOT standards and procedures used in Geodetic Control and leveling
- Résumé(s) demonstrate relevant CADD experience, if applicable
- Provided résumés list a minimum of five (5) projects completed within the past ten (10) years

Résumés referenced above include project descriptions that provide a narrative describing/identifying the key staff member's specific role and demonstrates an understanding of the concepts in the context of actual projects as related to the bulleted items below:

- Michigan State Plane Coordinate System (NAD 83)
- Michigan Spatial Reference Network (MSRN)
- Global Positioning System (GPS) methods - Processing and analysis
- Use of National Spatial Reference System (NSRS) control
- Least squares analysis
- Knowledge and experience in NGS Software including:
  - WinDecs
  - Translev
  - ADJUST
  - UTILITIES
  - PAGES
  - OPUS
- Knowledge and experience in the reduction and submittal of data to NGS (BlueBooking) as described in <http://www.ngs.noaa.gov/FGCS/BlueBook/>.
- Provide details on projects involving GPS and Level BlueBooking meeting FGCS/NGS Specifications 1<sup>st</sup> order horizontal or better, 2<sup>nd</sup> order class II or better vertical
- Demonstrate proficiency in the access and use of the NSRS including:
  - Scope/size of the projects
  - Procedures
  - Equipment/Software used
  - GPS project numbers
  - Leveling line numbers assigned by NGS to projects
- Narratives should also include a discussion on the project deliverables and how they were developed

NOTES:

- *Staff resumes submitted must collectively address bullet points listed above*
- *Sample project electronic files may be requested by the technical reviewer*

Staff Education / Experience:

PASS   
FAIL

Comments:

Technical Evaluator Signature & Date:

**Final Determination:**

**APPROVED**

Contract Services Approval – Signature & Date:

**DENIED**