Changes to Prequalification Manual
9.22.09

Bituminous Plant Inspection and Testing
Hot Mix Asphalt (HMA) Technician Testing Assistance
Road Construction Engineering

Bituminous Plant Inspection and Testing

Changed name to **Hot Mix Asphalt (HMA) Plant Inspection and Testing**

Added **bolded** to the description: Provide **HMA** plant inspection, **sampling** and testing services for MDOT.

Professional Registrations/Certifications
Removed Michigan Bituminous Paving Operations OR MDOT Bituminous Paving

Added: The following requirements must be submitted by *facility*

- Annual participation in the Construction & Technology laboratory round robin program; as defined in the HMA Production Manual; Section 4: HMA Lab and Technician Qualification Program
- Annual submittal of a Quality Manual documenting the minimum requirements of AASHTO R-18; as required in the HMA Production Manual; Section 4: HMA Lab and Technician Qualification Program.
- Proof of paid registration/participation in the AASHTO Materials Reference Laboratory (AMRL) On-site Assessment Program, as required in the HMA Production Manual; Section 4: HMA Lab and Technician Qualification Program.
- Annual proof of registration/participation in the AMRL Proficiency Sample Program; (PSP) as required in the HMA production Manual; Section 4: HMA Lab and Technician Qualification Program.

Equipment
Removed: AASHTO Accredited Laboratory or designate the accredited testing laboratory

Added **bolded**: Provide a document certifying that you currently own and that your staff is trained to use all necessary equipment to perform hot mix asphalt testing as required in Section 5.01-5.04 of the 2003 Standard Specifications For Construction and all applicable FUSP's for hot mix asphalt **by facility**.

Staff Education and Experience
Changed strike out: At least one technician must have a minimum of three (3) years experience in bituminous plant inspection ~~and~~ or testing services.

Consultant Experience
Changed strike out: Provide a list of road projects the Consultant has provided ~~bituminous~~ HMA plant inspection ~~and~~ or testing services.

Removed: Provide a list of current employees involved with the projects to be submitted for evaluation.

New Classification: Hot Mix Asphalt (HMA) Technician Testing Assistance
(See Instruction Manual for details)

Road Construction Engineering
Equipment
Removed: Provide a document certifying that you currently own and that your staff is trained to use all necessary equipment to perform hot mix asphalt testing as required in Section 501-504 of the Standard Specifications For Construction, all applicable FUSP's for hot mix asphalt, Hot Mix Asphalt QC/QA Procedures Manual of Field Testing and Materials Quality Assurance Procedures Manual.

Changes to Prequalification Manual
5.12.09

Staff Education and Experience portion

Removed from page 5 of the Consultant Prequalification Application Instructions under Staff Education and Experience Report:

- A fillable form titled, Staff Education and Experience Report, is available in the Consultant Prequalification Application. Be sure to report all appropriate staff (in which you have submitted a resume) on the key staff fillable form located in the Consultant Prequalification application.

And added:

- Include only key staff (staff likely to work on Michigan projects in the classification for which you are seeking prequalification). Please report your employee's experience as it pertains to the classification in which you are seeking prequalification. A sample resume is available in the 1242 form titled, Staff Education and Experience Report. Please note that the Staff Education and Report is just a template and not all portions of the form are fillable. You may choose to replace the template with your own resume form, however, if you do so, make sure that all information listed in the template is included on your resume format.

Changes to Prequalification Manual- Photogrammetric Control Surveys
5.12.09
(Deleted Strikethroughs added bolded)

Photogrammetric Control Surveys-
Surveys for the purpose of establishing ~~geodetic and~~ photogrammetric control; **placing photogrammetric control and targets** ~~capable of meeting FGCC second order class I standards~~; use of GPS, Ground traverses, differential leveling techniques; familiarity with least squares analysis of survey measurements.

Equipment and Software
Provide a document certifying that you currently own and staff is trained to use the equipment and software listed below. List equipment types/models and designate whether it is owned or rented, also list software used and the version available ~~(Note that each version of software must be identified and must be MDOT's current version)~~.

- GPS Receivers (minimum 3) – Dual frequency, **manufactured in year 2004 or newer and RTK capable**
- **Associated GPS processing software**
- **Fixed height GPS tripods**
- Total Station(s) with Data Collectors – Robotic and Reflectorless
- Level(s) – Digital ~~and Automatic~~
- Data collection software
- Least Square Adjustment software – **MDOT approved Horizontal and Vertical software**
- Coordinate Geometry software **and MDOT approved Survey Cadd software**

- ~~CAiCE and~~ MicroStation software (must be Geopak compatible and MDOT approved version)
- Computers, printers, plotters

Staff Education and Experience

Document education, school level completed, degree or certification obtained, license number and date issued if applicable, and list any other qualifications and experience of all key personnel and project managers utilized in your surveying program including:

- Professional Surveyor in responsible charge (list a minimum of five (5) projects completed in the last five (5) years) and Survey Crew Chief (list a minimum of three (3) projects completed in the last three (3) years) and relate the information below to each project:
  - Experience **involved with aerial mapping, targeting and photogrammetric control surveys used as part of the following: transportation and corridor surveys,** property surveys, ALTA surveys, ~~geodetic control surveys,~~ **and** topographic surveys. **Experience also includes photogrammetric targeting schemes and layout, geodetic control surveys, establishing** horizontal and vertical datum, state plane coordinates, Global Positioning Systems (GPS) methods, processing and analysis, use of National Geodetic Surveys (NGS) control, and least squares analysis. Knowledge and experience in traffic control measures, mapping projections, state plane coordinate zones, scale factors, elevation factors, NGS adjustments and software including OPUS, knowledge and use of Continuously Operating Reference System (CORS), NGS submittal process (blue booking), NGS control monument research and descriptions, **National Spatial Reference System (NSRS) Control, and Surveying CADD Software** ~~photogrammetric targeting schemes, High Accuracy Reference Network (HARN), and CAiCE~~ and MicroStation software.
- Survey Crew must have minimum of three (3) individuals with at least two (2) years of experience and document experience with GPS and field survey methods, photogrammetric targeting schemes and traffic control measures.
- Minimum of one (1) individual CADD Operators with at least one (1) year of experience and document experience in using MicroStation and ~~CAiCE~~ **CADD software** for surveys.
- **Listed information is specific to and directly related to this category**

Consultant Experience

List a minimum of five (5) projects completed in the last five (5) years and relate the information below to each project:

- ~~Michigan State Plane Coordinate System (NAD83), North American Vertical Datum (NAVD88), knowledge/use of High Accuracy Reference System (HARN), and OPUS. Knowledge and use of the Continuously Operating Reference System (CORS), Global Positioning System (GPS) methods, processing and analysis. Higher order leveling methods; 1d, 2d, and 3d least squares analysis. Photogrammetric target placement prior to flights and use of aerial photography for photogrammetric target placement and/or identifying pick point objects and surveying target locations. Consultant has listed projects for municipalities that involved photogrammetric mapping.~~

- **Photogrammetric target placement prior to flights and use of aerial photography for photogrammetric target placement and/or identifying pick point objects and surveying target locations.**
- **Photogrammetric control surveys including use of Michigan State Plane Coordinate System (NAD83), North American Vertical Datum (NAVD88), knowledge/use of the National Spatial Reference System (NSRS) and OPUS. Knowledge and use of the Continuously Operating Reference System (CORS), Global Positioning System (GPS) methods, processing and least squares analysis. Higher order leveling methods; 1st, 2nd, and 3rd order**

standards and procedures as well as least squares analysis of data. If the Consultant does not have enough MDOT and transportation/corridor projects, consultant can list projects for municipalities and private organizations that directly involved photogrammetric control surveys and mapping.

- **All project information is specific to and directly related to this category.**

3.24.09 Instruction Changes
(Added the bolded words)

Part C Equipment Availability (page 5)
See individual prequalification classifications for a list of equipment required for each service classification. There are no forms supplied in this package for preparation of this part of the submission. **However, all software required must be MDOT's current version.**

Complex Urban Freeway Design, Roadway Rehabilitation & Rural Freeways, and Road and Street Design

Complex Urban Freeway Design
Equipment
Provide a document certifying that you currently own and that your staff is trained to use the software listed below **(Note that each version of software must be identified and must be MDOT's current version):**

- Microsoft Office
- MicroStation
- GEOPAK
- Critical Path Software. **Microsoft Project is recommended but not required.* The software must be capable of producing the printout to be submitted with the plans in a bar chart format.

Provide a statement certifying your ownership of current versions of the following items and that you have staff that is knowledgeable in the use of these items:

- MDOT Road Design Manual
- MDOT Drainage Manual
- MDOT Traffic & Safety Geometric Design Guides
- MDOT Standard Plans
- MDOT Pay Item Code Book
- MDOT Standard Specifications for Construction, **2003**
- MDOT PPMS **Task** Manual
- AASHTO "A Policy on Geometric Design of Highways and Streets, **2004**"
- AASHTO "Roadside Design Guide, **2002**"
- **AASHTO "A Policy on Design Standards Interstate System, 2005"**

Roadway Rehabilitation & Rural Freeways
Equipment
Provide a document certifying that you currently own and that your staff is trained to use the software listed below **(Note that each version of software must be identified and must be MDOT's current version):**

- Microsoft Office

- MicroStation
- GEOPAK
- Critical Path Software. **Microsoft Project is recommended but not required.* The software must be capable of producing the printout to be submitted with the plans in a bar chart format.

Provide a statement certifying your ownership of current versions of the following items and that you have staff that is knowledgeable in the use of these items:

- MDOT Road Design Manual
- MDOT Drainage Manual
- MDOT Traffic & Safety Geometric Design Guides
- MDOT Standard Plans
- MDOT Pay Item Code Book
- MDOT Standard Specifications for Construction, **2003**
- MDOT PPMS **Task** Manual
- AASHTO "A Policy on Geometric Design of Highways and Streets, **2004**"
- AASHTO "Roadside Design Guide, **2002**"
- **AASHTO "A Policy on Design Standards Interstate System, 2005"**

Roads & Street Design

Equipment

Provide a document certifying that you currently own and that your staff is trained to use the software listed below **(Note that each version of software must be identified and must be MDOT's current version):**

- Microsoft Office
- MicroStation
- GEOPAK
- Critical Path Software. **Microsoft Project is recommended but not required.* The software must be capable of producing the printout to be submitted with the plans in a bar chart format.

Provide a statement certifying your ownership of current versions of the following items and that you have staff that is knowledgeable in the use of these items:

- MDOT Road Design Manual
- MDOT Drainage Manual
- MDOT Traffic & Safety Geometric Design Guides
- MDOT Standard Plans
- MDOT Pay Item Code Book
- MDOT Standard Specifications for Construction, **2003**
- MDOT PPMS **Task** Manual
- AASHTO "A Policy on Geometric Design of Highways and Streets, **2004**"
- AASHTO "Roadside Design Guide, **2002**"

Application Instruction Change 2.26.09

Density Inspection and Testing

Added the following verbiage under Certifications:

Effective March 19, 2009, all prime and sub consulting firms under contract with MDOT must submit a current Certificate of Calibration for each gauge to be used on MDOT or federal aid projects. The Certificates of Calibration will be required annually for each gauge a consulting firm intends to use on all MDOT and federal aid projects. The calibration report must be from a qualified independent testing firm, and the calibration data shall be generated using a minimum of 3 calibration blocks.

The Contract Services Division will not award any new contracts that include density inspection & testing work without verifying that current calibration data is on file with the MDOT Density Technology Unit. If gauges require recalibration during the construction season, new calibration data must be sent to the MDOT Density Technology Unit. Use of gauges without current calibration data on file at MDOT will not be permitted on MDOT or federal aid projects.

Commencing with the 2010 construction season the Certificate of Calibration must contain a valid signature and be reported in accordance with the guidelines detailed in the National Institute of Standards and Technology (NIST) Handbook. Furthermore, the report must contain documentation that the results of the measurements used to determine the density of the calibration blocks are traceable to NIST.

The calibration data should be mailed to Justin Foster, MDOT Density Technology Unit at the following address:

MDOT Density Technology Unit
Construction and Technology Division
8885 Ricks Road
Lansing Michigan 48909

Complex Urban Freeway Design
Staff Education and Experience
Other staff
A minimum of four (4) ~~non-PE~~ engineers and/or CADD technicians.

Roads & Streets
Staff Education and Experience
Other staff

- A minimum of two (2) ~~non-PE~~ engineers and/or CADD technicians.

Roadway Rehabilitation & Rural Freeways
Staff Education and Experience
Other staff
A minimum of three (3)~~ non-PE~~ engineers and/or CADD technicians

Application Instruction Change 2.4.09

Bridge Safety Inspections and Underwater Bridge Inspection

All asterisks denoting optional criteria from the descriptions were removed.

Application Instruction Change 12.17.08

Part D Staff Education and Experience
Added
Please note that all resumes should highlight experience as it relates to the specific prequalification classification that is being applied for.

Part E Consultant Project Experience
Added
Please note that all Consultant Project Experience listed should highlight experience as it relates to the specific prequalification classification that is being applied for.

Application Instruction Change 12.3.08

New classification added
Geodetic Control and Leveling
Surveys for the purpose of establishing Horizontal geodetic control meeting Federal Geodetic Control Subcommittee (FGCS) 1st order standards or better, and Geodetic differential leveling techniques meeting FGCS 2nd order class 1 standards or better; Blue Booking techniques as defined by FGCS/NGS (National Geodetic Survey) http://www.ngs.noaa.gov/FGCS/BlueBook/.

Engineering Assistance
Consultant Project Experience

- List only projects completed within the past five (5) years. The project listing should show experience in engineering assistance services. ~~in areas such as the following~~ *The engineering assistant services provided should include a sufficient level of experience in one or more of the following areas:*

  Construction project records reviews
  Contractor's claim procedures, documentation, and reviews
  Developing or reviewing "Critical Path Networks" for progress clauses and progress schedules
  Value engineering proposal evaluations
  Construction paving projects
  Bridge construction
  Development of special contract language or specification writing
  Ride quality measurements
  Grading & drainage construction
  Traffic and safety (signs, signals, guardrail, etc.) projects
  Warranty road projects
  Utility coordination work
  Concrete or hot mix asphalt quality assurance and quality control
  Contractor staking projects

Changes to Consultant Prequalification Application Instructions
11.7.08

MDOT will require two licensed professionals (engineer or surveyor) for the following nine classifications:

- Road Construction Engineering
- Bridge Construction Engineering
- Capital Preventative Maintenance
- Project Development Studies
- Right-of-Way Surveys
- Road Design Surveys
- Structure Surveys
- Photogrammetric Surveys
- Hydraulic Surveys

Changes made to Bridge Safety and Inspection and Underwater Bridge Inspection Prequal classifications (see Notice to Consultants from 11.7.08)

Changes to Consultant Prequalification Application Instructions
9.9.08 (Changes in Strikeout)

Staff Education and Experience

- One (1) RLA, with a minimum of four (4) years experience in Wetland Design and implementation. ~~, and/or~~
- One (1) Registered Professional Engineer (PE), with a minimum of four (4) years experience in Wetland Design and implementation.

Changes to Consultant Prequalification Application Instructions
4.7.08

Bridge Safety Inspection
Added equipment requirement:
- The Current version of The Bridge Inspection Reference Manual (BIRM)

Underwater Bridge Inspection
Added equipment requirement:
- The Current version of The Bridge Inspection Reference Manual (BIRM)

Changes to Consultant Prequalification Application Instructions
3.3.08

Subsurface Utility Engineering
Removed the following equipment requirement:

- GEOPAK (current MDOT version)

Utility Coordination
Removed the following equipment requirement:

- GEOPAK (current MDOT version)

Please note that if your company was denied prequalification due to a lack of GEOPAK as previously required in these classifications, the one year waiting period for resubmittal will be waived.

Changes to Consultant Prequalification Application Instructions
2.1.08

Construction Staking
Removed the following equipment requirement:

- CAiCE (must be Geopak compatible and MDOT approved version)

Removed the following Staff Education and Experience requirement:

- Company Principal responsible for the survey program is a licensed surveyor and has at least five (5) years experience as a project manager.

Please note that if your company was denied prequalification due to a lack of CAiCE software as previously required in this classification, the one year waiting period for resubmittal will be waived.

Changes to Consultant Prequalification Application Instructions
11.5.07 (Changes in Strikeout)

Railroad Bridge Design
Consultant Project Experience
If you are using a combination of MDOT projects and projects for other agencies then a minimum of ~~ten (10)~~ five (5) projects must be listed

Removed:
- All projects listed for other states must be for other state Departments of Transportation.

Changes to Consultant Prequalification Application Instructions
10.8.07

Road Construction Engineering
Added: *All Consultants approved for Construction Engineering (Road and Bridge) services will also be granted approval for Engineering Assistance without application.*

Removed: *All applicants requesting full Construction Engineering (Road and Bridge) services must include in their application a request for consideration of approval for Technical Assistance.*

Bridge Construction Engineering
Added: *All Consultants approved for Construction Engineering (Road and Bridge) services will also be granted approval for Engineering Assistance without application.*

Removed: *All applicants requesting full Construction Engineering (Road and Bridge) services must include in their application a request for consideration of approval for Technical Assistance.*

Engineering Assistance
Removed: *Consultants with Provisional status in Road Construction Engineering and/or Bridge Construction Engineering must separately apply for Engineering Assistance.*

Short & Medium Span Bridge Design
Added: *All Consultants approved for Complex Bridge Design will also be granted approval for Short & Medium Span Bridge Design with or without application.*

Roadway Rehabilitation & Rural Freeways
Added: *All Consultants approved for Complex Urban Freeways will also be granted approval for Roadway Rehabilitation & Rural Freeways and Roads and Streets with or without application.*

Roads and Streets
Added: *All Consultants approved for Complex Urban Freeways will also be granted approval for Roadway Rehabilitation & Rural Freeways and Roads and Streets with or without application.*

Added: *All Consultants approved for Roadway Rehabilitation & Rural Freeways will also be granted approval for Roads and Streets with or without application.*

Changes to Consultant Prequalification Application Instructions

Changes made to Complex and Simple Traffic Signal Operations, Complex Bridge Design and Complex Urban Freeway Design

10.1.07

Complex Traffic Signal Operations

Staff Education and Experience – Allowing up to eight (8) years for providing projects

The last three (3) projects related to traffic signal corridor analysis that engineer worked on in the last eight (8) years.

Simple Traffic Signal Operations

Staff Education and Experience – Allowing up to eight (8) years for providing projects

The last three (3) projects related to traffic signal corridor analysis that engineer worked on in the last eight (8) years.

Complex Bridge Design

Staff Education and Experience – Allowing up to eight (8) years for providing projects

List only projects completed in the past eight (8) years.

Complex Urban Freeway Design

Staff Education and Experience – Allowing up to eight (8) years for providing projects

List only projects completed in the past eight (8) years.

Changes to Consultant Prequalification Application Instructions

Changes made to Complex and Simple Traffic Signal Operations, Traffic Capacity Analysis and Geometric Studies and Hydraulics
8.28.07

Complex Traffic Signal Operations

Classification Description - Added the following verbiage.

Example projects for this classification are long corridor or region wide retiming projects, up to 100 signals or more. They also include traffic impact studies for private developments or any other signal analyses on state trunkline. They may or may not require signal warrant analyses.

Equipment
Requiring Synchro 7 or newer
Listed the websites to find our guidelines

Staff Education and Experience – Added the following verbiage:

A minimum of one (1) licensed engineer is a key person involved with the analysis.

Vendor Experience - Added the following verbiage:

All consultants approved for Complex Traffic Signal Operations will also be granted approval for Simple Traffic Signal Operations with or without application.

Simple Traffic Signal Operations

Classification Description - Added the following verbiage.

Example projects for this classification are traffic impact studies for private developments or any other signal analyses on state trunkline that include a maximum of 3 signals. These may or may not require signal warrant analyses and may also include time-space analysis of proposed or existing signals within an existing signalized corridor. For any engineering study including more than 3 traffic signals, the Consultant must be pre-qualified in Complex Traffic Signal Operations.

Equipment
Requiring Synchro 7 or newer
Listed the websites to find our guidelines

Staff Education and Experience – Added the following verbiage.

A minimum of one (1) licensed engineer is a key person involved with the analysis.

Vendor Experience

Revised the requirement of submitting a corridor of five (5) signals and reduced to submitting three (3) signals.
Eliminated the requirement to submit timing permits in MDOT forms.

Added-All consultants approved for Complex Traffic Signal Operations will also be granted approval for Simple Traffic Signal Operations with or without application.

Traffic Capacity Analysis and Geometric Studies

Equipment
Eliminated Netsim as required equipment

Vendor Experience
Revised the requirement to now include the Simple or Complex Traffic Signal Operations if any signal operation is included in an analysis.

Hydraulics

Staff Education and Experience- now reads

- *Vendor must list staff's relevant project experience, project responsibilities, and training resumes for all staff providing work in this category. Staff experience gained while working at other firms can be included provided it is noted as such and is relevant to this prequalification category.*
- *Lead Hydraulic Engineer must have formal training in the required hydraulic computer software and hydraulic design. A minimum of two (2) classes specific to hydraulics and/or required computer programs in the last five (5) years are required. Vendor has provided documentation including date of class, class name, class subject, and training organization.*
- *Staff engineers must have three (3) years experience performing a range of hydraulic design and analysis including: water surface profile modeling, retention/detention basin design, scour and stream stability analysis, scour counter measure design, structural best management practices design, storm sewer design, hydrologic analysis of stormwater conveyance systems and drainage studies.*
- *Vendor has provided a list of key staff that has the experience and expertise needed for this prequalification category. MDOT must be notified of any changes key staff.*

Vendor Experience-now reads

- *Vendor has completed five (5) projects in the last five (5) years that cover range of hydraulic engineering projects. Project summaries have been submitted and include the project description, project owner, Department of Environmental Quality (DEQ) permit number (if required), staff responsible for project, and type of hydraulic work. Two (2) of these projects must have hydraulic reports reviewed by the DEQ for compliance with the State's floodplain regulations (Part 31 of NREPA).*
- *Vendor's projects must demonstrate experience in hydraulic design and analysis as noted in the staff education and experience.*
- *Vendor's professional engineers have four (4) years experience with AASHTO, FHWA, and MDOT hydraulic standards and have documented experience obtaining permits from State of Michigan permitting agencies.*

8.3.07 Changes to Consultant Prequalification Application Instructions

ACCOMMODATION/ACCESS - (Page 3)

Fax # has been changed to 517-373-9466

Bridge Painting Inspection
Professional Registrations- bolded part has been added

2 inspectors with National Association of Corrosion Engineers (NACE) Coating Inspector Program 1; or Society for Protective Coatings (SSPC) - Fundamentals of Protective Coatings for Industrial Structures(C-1); **or completion certificate for FHWA NHI 130079, Bridge Coatings Inspection course or similar recognized professional bridge paint inspection training course;** or 3 years of bridge painting inspection experience on MDOT structures.

6.18.07 Changes to Consultant Prequalification Application Instructions

TRAFFIC OPERATION STUDIES

This category is now called **Traffic Capacity Analysis and Geometric Studies**.

Equipment-
Synchro Light is not acceptable.

Vendor Experience - Added the following verbiage.

If the engineering study includes a review of potential signal operations, the Consultant must also be pre-qualified in Traffic Signal Operations. The review of potential signal operations includes warrant analysis for new signals or any other signal analysis.

TRAFFIC SIGNAL OPERATIONS

Equipment-
Synchro Light is not acceptable.

Vendor Experience - Added the following verbiage.

For any engineering studies that impact traffic on trunkline roadways, the Consultant must also be pre-qualified in Traffic Capacity Analysis and Geometric Studies (formerly known as Traffic Operation Studies)

6.4.07 Change to Consultant Prequalification Application Instructions

The bolded note was added to the following paragraph on page 3:

A copy of your Company's financial information (labeled parts 1-12), including labor rates, overhead computations and financial statements if overhead rate is not audited. If appropriate financial information is not provided, your company will be given a $50,000 total contracting limit. The only exception to the above is that no financial information is required if total contracting with MDOT at any given time is anticipated to be less than $50,000, as identified on your Application form. **Note: Parts 1-12 must be clearly labeled.**

5.30.07 Change to Consultant Prequalification Application Instructions

The GEOPAK software requirement was removed from the following classifications:

Building and Structure Design
Complex Bridges
Moveable Span Bridges
Railroad Bridges
Short and Medium Span Bridges
Specialty Walls/Slopes

5.3.07 Change to Consultant Prequalification Application Instructions

Page 3 of Consultant Prequalification Application Instructions

FILING OF APPLICATION -
Service prequalification is an on-going process. New applications will be accepted at any time. Incomplete submissions may be returned, causing a delay in prequalification processing. Renewal applications will be accepted up to ~~**90**~~ **30** days prior to the prequalification expiration date.