



INDOT

Consultant Prequalification Manual

11/1/2018

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Revision Summary

The most recent revisions made to the Consultant Prequalification Manual are listed below:

All work types have been reformatted and changes both major and minor have been made to multiple work types. The substantive changes are listed below.

- (1) All work types in categories 1.0 and 2.0 have been reformatted with no changes to the work type requirements.
- (2) The 5.0 Environmental Services Category has had changes to multiple work types.
 - a. Work type 5.9 Archaeological Investigations and 5.10 Historical Architecture Investigations have had several changes that will be enforced on the firm's next General/Technical Renewal Application.
- (3) Work type 5.11 – ESA Screenings Phase I and Phase II, Remedial Design has been eliminated and split into two new work types 5.13 ESA Screenings Phase I ESA and 5.14 Phase II and Further Site Investigation/Corrective Action. Firms that are currently approved for work type 5.11 will be required to submit a Technical Modification and request the new work types.
- (4) Other minor changes were made to some work types that will be enforced on the firm's next General/Technical Renewal Application.
- (5) A new work type has been added to the 8.0 – Roadway Design Category. Work type 8.3 – Roundabout Design has been added.
- (6) The requirements for work types 9.1 and 9.2 were rewritten for clarity, and the bridge design types included in the experience requirements were updated to more common designs. The general information was also updated to include additional project types in the list of projects a consultant could potentially contract for using the 9.1 and 9.2 work types.
- (7) A clearer definition of the 15.1 – Specialty Not Listed work type has been added along with new restrictions.
- (8) 16.0 – Utility Coordination Category has been added.
- (9) 17.0 – Hydraulic Engineering Category has been added.
- (10) 18.0 – Pavement Analysis-Design Services Category has been added.
- (11) The INDOT Consultant Prequalification Introduction section was revised to restate the statutory basis for INDOT prequalification of consultants.
- (12) The Prequalification Committee Action was also revised to restate the statutory basis for INDOT prequalification of consultants.

Revisions of this Manual will be communicated to the consulting community through email messages sent directly to identified-contacts of the prequalified Consultant and subscribers to the INDOT-RFP Email Notification. Prequalified consultants should maintain at least one up-to-date subscription to the INDOT-RFP Email Notification. Consultants may subscribe to the RFP Email Notification at:

<http://www.in.gov/dot/div/legal/rfp/RFPemail.htm>

A. INDOT Consultant Prequalification Introduction

For the purposes of this manual, a “consultant” is a business that contracts with INDOT to provide a service for a public works project, including services that require work to be performed by or under the supervision of a registered engineer, architect, or surveyor.

All consultant work types requiring prequalification under this manual are “public works projects”. Prequalification is required for all work types included in this manual. This requirement applies to both prime consultants and sub consultants, regardless of the value of the work contracted.

Services not rendered for a public works project do not require prequalification. Services not requiring prequalification are any services not covered by the work types contained in this manual, including the examples listed [here](#).

INDOT’s prequalification of consultants is required by Ind. Code 8-23-10-0.5 as part of the rules for public works projects established by Ind. Code 5-16-13.

Pursuant to Ind. Code 5-16-13-10(c), a contractor for an INDOT public works project must be prequalified by the Department under Ind. Code 8-23-10.

The requirement of Ind. Code 5-16-13-10(c) is codified by Ind. Code 8-23-10-0.5(b) as the INDOT prequalification rule.

The rule provides that “...a contractor must be qualified [by INDOT under Ind. Code 8-23-10] before doing any work on a public works project that is the construction, improvement, alteration, repair, or maintenance of a highway, street, or road (as defined by IC 8-23-1-23) or alley.”

A “contractor” for the purposes of the INDOT prequalification rule includes “each person that has a contract... **to supply a service** for, a public works project.”¹ A “person” is a business that contracts for a public works project.²

A consultant is in turn a “contractor” for the purposes of Ind. Code 8-23-10-0.5, and must be prequalified as part of the rules for public works projects under Ind. Code 5-16-13.

While consultants are included within the scope of INDOT prequalification under Ind. Code 8-23-10-0.5, the remaining provisions of Ind. Code 8-23-10 pertain exclusively to the Department’s qualification of construction contractors, or “bidders”.³

The qualification of bidders under Ind. Code 8-23-10 is administered according to these specific statutory criteria and procedures, which do not apply to consultants. This is because construction contracts are awarded to the lowest eligible bidder, and in turn, prequalification is the only mechanism to prevent construction contracts from being awarded to incompetent or unqualified firms.

Pursuant to Ind. Code 8-23-2-12, INDOT awards consultant contractors “on the basis of competence and qualifications for the type of services to be performed.” Performance and work type qualification, not bid value, are therefore the determining factors for awarding consultant contracts under Indiana law.

¹ Per Ind. Code 8-23-10-0.5(a), the terms used in this code section have the definitions provided by Ind. Code 5-16-13. The term “contractor” as used in the prequalification rule is defined by Ind. Code 5-13-16-3 and Ind. Code 5-13-16-4.

² Ind. Code 5-16-13-4.

³ The only code section that governs consultant prequalification is Ind. Code 8-23-10-4, which requires all subconsultants for public works to be prequalified, notwithstanding the dollar value of the work contracted.

Consistent with Ind. Code 8-23-2-12, consultant prequalification is based not on the universally applicable statutory criteria and procedures for bidders under Ind. Code 8-23-10, but on the work type specific requirements for qualification established by INDOT by virtue of this manual.

Additional policies and procedures for consultant prequalification are contained in following sections of this manual.

B. INDOT Consultant Prequalification Guidelines

1. INDOT reserves the right to deny prequalification and to revoke, suspend, or otherwise alter the terms of a consultant's prequalification based on poor performance or other appropriate grounds under the procedures set forth in Section I of this manual.
2. Throughout this manual where it is stated that an individual must be a licensed or certified professional, it is understood that the individual **must be licensed or certified in the State of Indiana**, unless otherwise specifically stated.
3. The consultant shall obtain and maintain in good standing any licensure or certification upon which INDOT relies for prequalification. A consultant has an affirmative duty to notify INDOT within fifteen (15) calendar days of any expiration, modification, suspension or revocations of any such license or certification. This duty includes, but is not limited to prompt notification to INDOT whenever any qualifying person approved by INDOT is no longer a full-time employee of the consultant. An online technical modification application must be submitted within fifteen (15) days of an approved qualifying person no longer meeting the work type requirements or ceasing to be a full-time employee. The technical modification application must provide a replacement qualifying person(s) for all affected work types or the affected work type(s) must be removed by the consultant. Should INDOT become aware of and subsequently confirm that a consultant has failed to submit an online technical modification application within fifteen (15) days of any change directly affecting work type approval, INDOT will immediately rescind approval of any and all affected work types. The consultant may then submit an online technical modification application at any time providing a new qualifying person(s) or provide additional information resolving any disqualifying issue and request reinstatement of work type approval.
4. A modification application should be submitted by the consultant in the event of any change in the status of the firm including, but not limited to:
 - a. A change of ownership.
 - b. A change of address.
 - c. A change in the form of the business entity under which the firm operates.
 - d. A change in personnel which affects the firm's qualifications to perform any type of work.
 - e. A material adverse change in the consultant's financial condition.
 - f. Addition of certification as either Disadvantaged Business Enterprise (DBE), Minority Business Enterprise (MBE), Women's Business Enterprise (WBE), or Veteran's Business Enterprise (VBE).
 - g. Any other change which affects a substantive item INDOT considers when prequalifying consultants.

The consultant must notify INDOT within fifteen (15) days of any such change. An online modification application must be submitted within fifteen (15) days of any such change to correct information on file with INDOT. Failure to submit the appropriate modification application will result in loss of the consultant's prequalification status or work type approval until appropriate actions are taken.

5. All subconsultants must be prequalified except those providing the services on the list found at:

<http://www.in.gov/indot/2732.htm>

This list may be modified by INDOT at any time.

6. **General/Technical Prequalification Expiration:** A consultant's General/Technical Prequalification is valid for a two (2) year term. INDOT may, at its discretion, approve a General/Technical Renewal application or Initial application for a term less than the normal two (2) years. Also, INDOT may, at its discretion, for consultants that exhibit minimal experience, approve the General/Technical application for a one (1) year probationary period. All General/Technical Prequalification Renewal applications are to be submitted online in the PSCS no sooner than ninety (90) days prior to expiration and no later than thirty (30) days prior to expiration. Should INDOT, due to unforeseen circumstances, be unable to process renewal applications submitted thirty (30) or more days prior to the General/Technical expiration, those applications shall have the expiration date extended and the consultant's prequalification status will remain as approved until INDOT is able to process the application. Renewal applications submitted later than thirty (30) days prior to expiration are not guaranteed to be processed prior to the expiration date. Consultants with an expired prequalification status will no longer appear on the list of approved consultants posted on the Consultant Prequalification website and will no longer have access to the LOIS portal in the PSCS.
7. **Financial Prequalification Expiration:** All prequalified consultants are required to submit a Financial Update annually. Financial Update applications are to be submitted online within 180 days of the close of the firm's fiscal year. Financial updates submitted at the Limited Services/Unit Price Services financial level are reviewed by the Prequalification Division. Financial updates submitted for the Self Certified, CPA Audit, or Cognizant Audit levels are reviewed by INDOT's External Audit Section. The prequalification status of a firm that submits their Financial Update application prior to the expiration date will remain as approved until the application is processed. The prequalification status of a firm that submits their Financial Update application after their expiration date will remain expired until their application is processed in the normal course of business. Consultants with an expired prequalification status will no longer appear in the list of approved consultants posted on the Consultant Prequalification website and will no longer have access to the LOIS portal in the PSCS.
8. INDOT may, at its discretion, periodically audit a sampling of prequalified consultants, to ensure the consultant's compliance with the minimum qualifications and requirements. Consultants found to have misrepresented their qualifications may be subject to loss of prequalification status under the procedures set forth in Section I of this manual.
9. Initial Business Registrations will be considered in the order received. INDOT will attempt to process Initial Business Registrations within five (5) calendar days of receipt.
10. Initial Prequalification, General/Technical Modification and Renewal applications will be considered in the order received. INDOT will attempt to process these applications within thirty (30) calendar days of receipt.

11. Initial prequalification applications and any application requesting new work type approval necessary in order to submit a LOI for a currently advertised RFP must be submitted no less than ten (10) calendar days prior to the closing date of the RFP. Applications submitted less than ten (10) calendar days prior to the closing date will not be processed prior to the RFP closing.
12. Financial Update applications will be considered in the normal course of business. Written notification of the consultant's prequalification status will be mailed to the Main Contact Office mailing address listed in the prequalification application's General form after the financial information has been reviewed. INDOT will attempt to process these applications within ninety (90) calendar days of receipt.
13. By submitting an application for Initial Prequalification, General/Technical Modification, Renewal, or Financial Update, the Consultant automatically and expressly agrees that INDOT may, at any time prior to INDOT's action on such application and at any time during which a consultant is prequalified, obtain all information considered pertinent by INDOT with respect to the financial worth, assets and liabilities, and employees of the consultant and all information considered pertinent by INDOT with respect to other persons or entities who may be controlling, controlled by, or under common control with the Consultant. Upon request by INDOT, the Consultant shall execute and deliver to INDOT an express authorization for the Consultant's accountant and other third parties to furnish any of this information to INDOT. Failure to provide any such information or to expressly authorize, upon request, INDOT to be furnished any such information by third parties will be sufficient ground for INDOT to revoke the qualification of the Consultant for one or all work types. INDOT may, at any time during which a consultant is prequalified, demand the submittal of a new prequalification application. If the consultant does not submit a new application within thirty (30) days of the date of any such demand the consultant's prequalification may be revoked until a new application is submitted, received, and reviewed by the Department.
14. Consultants are required to maintain professional liability insurance for the amounts in accordance with Table C1 before prequalification can be approved.
15. All qualifying persons submitted for review in the Technical section of a consultant's application must be full time staff employees. INDOT does not consider contract employees to be full time staff employees.

C. INDOT Consultant Prequalification Application

Consultants wishing to become prequalified with INDOT must complete the following steps:

- Submit a New Business Enrollment request for the INDOT Technical Application Pathway (ITAP). ITAP is the log in portal that consultants use to gain access to the online programs available for doing business with INDOT.
- Submit an Initial Business Registration in the PSCS.
- Submit an Initial Prequalification Application in the PSCS, if it is determined that the consultant requires prequalification.

1. ITAP Enrollment:

- a. The ITAP log in page as well as the New Business Enrollment link and New User Enrollment link may be found at <https://itap.indot.in.gov/login.aspx>. The individual listed as the contact person in a firm's New Business Enrollment in ITAP is automatically designated as the Primary Contact and as such becomes the administrator for both the firm's ITAP and PSCS accounts. Only a Primary Contact may approve new user enrollment. Other users may be designated, by the Primary Contact, as administrators for both systems after their enrollment is approved. It is important to note that as the administrator of the firm's PSCS account, the Primary Contact is required to grant a new user access to the PSCS and assign security levels to any new users that enroll in the firm's ITAP account. Access to PSCS is not automatically granted to new users.
- b. Both ITAP and PSCS use the Federal Employer Identification Number (FEIN) as the firm's tracking key in our systems. Please be certain to use the correct FEIN when enrolling your business in ITAP. In the case of sole proprietorships, the use of a social security number is not allowed.
- c. When enrolling in ITAP consultants must use the legal name of the firm. Firms should not use Doing Business As (DBA) names when enrolling in ITAP.
- d. When the New Business Enrollment is approved, the Primary Contact is notified by an auto generated email of the approval and the need to access the PSCS to submit the firm's Initial Business Registration.

2. **Initial Business Registration:** Once enrolled in ITAP, the consultant will need to access PSCS to submit an Initial Business Registration. The Initial Business Registration provides general information about the firm that assists INDOT in determining if the services provided by the consultant require prequalification. If the Initial Business Registration is approved, the contact person listed in the registration under the Main Contact Office will be notified of the approval via an auto generated email. If INDOT determines that the consultant requires prequalification, the email will advise the consultant to log back into PSCS and complete an Initial Prequalification Application.

3. **Initial Prequalification Application:** The Initial Prequalification Application consists of three parts General Information, Technical Information, and Financial Information. An Initial Application is the only time that all three parts are submitted as one application. Detailed instructions for the PSCS Prequalification Application can be found on the Consultant Prequalification website at:

<http://www.in.gov/indot/2732.htm>

a. General Information Form

- (1) The general form of the application will be pre-populated with the information that was submitted on the firm's Initial Business Registration. A Certificate of Insurance indicating a current Professional Liability or Errors & Omissions policy in force is the only additional document required for the General form. A copy of the COI should be uploaded to the

application.

(2) Throughout the application, shaded fields indicate required entries.

b. Technical Information Form

(1) In the technical form, the consultant selects the work type(s) requested for prequalification.

(2) After selecting the desired work type(s), qualifying persons are associated with each work type to be reviewed by INDOT for work type approval. Qualifying persons must meet all requirements stated for the specific work type. These work types and the specific requirements are presented later in this manual.

(3) Each work type has a minimum required and a maximum allowed number of qualifying persons. This will be stated in the work type requirements. Certain work types allow the combination of more than one (1) qualifying person's experience to meet all aspects of the work type's requirements.

c. Financial Information Form

(1) All Initial Prequalification applications are submitted for the Limited Services/Unit Price Services financial level of prequalification. A description of this financial level can be found in Section IV of this manual.

(2) Completion of the financial form for the Limited Services/Unit Price Services level requires an entry of the date of the most recently completed fiscal year and the total allowable wages and salaries for the firm for that year.

(3) Allowable wages and salaries are described as: Bonus, Pension, 401k, ESOP, deferred income whether paid or accrued and all other forms of compensation other than wages and salaries and are **not** to be included in this total unless they were verified as allowable under the rules of the federal acquisition regulations (FAR). Compensation paid as "Profit Sharing" is not allowable under the FAR and "Guaranteed" payments not clearly related to and supported by hours worked and/or services performed are generally unallowable and should not be included in the calculation of annual total wages.

(4) Once the Initial Prequalification application has been approved, the consultant may submit a Financial Modification application and request an upgrade of their financial prequalification level to one of the three full financial levels, self certified, CPA audit or cognizant audit.

4. Modification Application: Modification applications are submitted for multiple reasons. General/ Technical modifications can be submitted as one application or individually. Financial modifications are submitted separately. Essentially, modification applications are submitted when there is a change

that has an impact on a consultant's prequalification status. Firms that have experienced a name change or change in their Federal Employer Identification Number should contact the Prequalification Section at ConsultantPreQualification@indot.in.gov for assistance. Detailed instructions for the PSCS Prequalification Application can be found in the user's manual at:

<http://www.in.gov/indot/2732.htm>

- a. **General Form Modification:** A General modification application should be submitted for the following reasons:
 - (1) A change in contact information. Information should always be kept up to date for the Main Contact Office. This information is the primary source for all communication from INDOT.
 - (2) To add DBE, WBE, MBE or VBE status. These programs are not administered by the INDOT Prequalification Section and certification is not automatically added to a consultant's prequalification status. The consultant must submit a General modification application and select the certification they wish to add. They must also upload a copy of their certification letter in the upload section of the General form as a supporting document.
 - (3) Refer to section II, D, 1 through 7 for additional reasons.
- b. **Technical Form Modification:** A Technical modification application should be submitted for the following reasons.
 - (1) To request the addition of a new work type to the firm's certificate of approved work types.
 - (2) To replace an approved qualifying person who has left the firm, a qualifying person who no longer meets the work type requirements, or to remove the work type if there is no one on staff that meets all of the requirements for the work type.
- c. **Financial Form Modification:** A Financial modification application is submitted to change information already in the system that has been previously reviewed by INDOT. Information regarding required documentation for the Self Certified, CPA Audit, and Cognizant Audit financial levels can be found on our External Audit Section's website at:

<http://www.in.gov/indot/2846.htm>.

A Financial modification should be submitted for any of the following reasons:

- (1) To upgrade the firm's previously approved Financial Prequalification Level. All four Financial Prequalification Levels are detailed in Section IV of this manual.
- (2) To make corrections to previously approved financial information due to changes in the firm's financial situation.

5. **Renewal Application:** General/Technical Prequalification Renewal applications are to be submitted online in the PSCS no sooner than ninety (90) days prior to expiration and no later than thirty (30) days prior to expiration. Should INDOT, for any reason, be unable to process renewal applications submitted thirty (30) or more days prior to the General/Technical expiration, will not expire and the consultant's prequalification status will remain as approved until INDOT is able to process the application. Renewal applications submitted later than thirty (30) days prior to expiration are not guaranteed to be processed prior to the expiration date. Consultants with an expired prequalification status will no longer appear on the list of approved consultants posted on the Consultant Prequalification website and will no longer have access to the LOIS portal in the PSCS.
- a. Both the General and Technical sections of a Renewal application are submitted as one application.
 - b. The General/Technical expiration dates can only be updated from a Renewal application.
6. **Financial Update Application:** All prequalified consultants are required to submit a financial update annually. Financial Update applications are to be submitted within 180 days of the close of the firm's fiscal year. Financial updates submitted at the Limited Services/Unit Price Services financial level are reviewed by the Prequalification Section. Financial updates submitted for one of the full financial levels Self Certified, CPA Audit, or Cognizant Audit are reviewed by our External Audit Section. Information regarding required documentation for the Self Certified, CPA Audit, and Cognizant Audit financial levels can be found on our External Audit Section's website at:

<http://www.in.gov/indot/2846.htm>

The prequalification status of a firm that submits their Financial Update application prior to the expiration date will remain as approved until the application is processed. The prequalification status of a firm that submits their Financial Update application after their expiration date will remain expired until their application is processed in the normal course of business. Consultants with an expired prequalification status will no longer appear on the list of approved consultants posted on the Consultant Prequalification website and will no longer have access to the LOIS portal in the PSCS.

D. INDOT Consultant Financial Prequalification

INDOT offers four levels of financial prequalification:

- Limited Services/Unit Price Services
- Self Certified
- CPA Audit
- Cognizant Audit

- 1. Limited Services/Unit Price Services:** All initial applications are submitted for this financial level. Once an initial prequalification application is approved, the consultant may submit a financial modification application requesting one of the full financial levels.
 - a. Consultants approved at this level may only participate in contracts on lump sum, negotiated labor rates or unit price basis.
 - b. Consultants approved for Limited Services are restricted to \$150,000 annual selection capacity.
 - c. The selection capacity for consultants approved for the Unit Price Services is \$150,000.00 or double the allowable wages/salaries for the firm's most recently completed fiscal year whichever is greater.
 - e. Consultants approved for Limited Services/Unit Price Services are not issued an INDOT approved overhead rate.
 - f. Financial applications at this level are reviewed by the Prequalification Section.
 - g. Unit price payments are only used for specific work types in the 7.0 – Geotechnical Services and 12.0 – Right of Way Acquisition Services categories.

- 2. Self Certified:** The self certified documents are certified by a financial officer of the firm.
 - a. Consultants approved at this level may only participate in contacts on lump sum, negotiated labor rates or unit price basis.
 - b. Consultants approved at this level will have an annual selection capacity that is equal to double the allowable wages/salaries of the firm with a minimum capacity of \$150,000 and a maximum capacity of \$250,000.
 - c. Consultants approved at this level will be issued an INDOT approved overhead rate.
 - d. Financial applications submitted for this level are reviewed by the INDOT External Audit Section.

- 3. CPA Audited:**
 - a. Consultants approved at this level are approved for all payment methods.
 - b. Consultants approved at this level will have a minimum annual selection capacity of \$150,000.00 or double the allowable wages/salaries for the most recently completed fiscal year, whichever is greater.
 - c. Financial applications submitted for this level are reviewed by the INDOT External Audit Section.

- 4. Cognizant Audit:**
 - a. A cognizant audit is one performed by another state's or governmental agency.
 - b. Consultants approved at this level are approved for all payment methods.
 - c. Consultants approved at this level will have a minimum annual selection capacity of \$150,000.00 or double the allowable wages/salaries for the most recently completed fiscal year, whichever is greater.
 - d. Financial applications submitted for this level are reviewed by the INDOT External Audit Section.

Table C1

| Work type No. | Work type Description | Professional Liability Risk Factor | Professional Liability Ins Required? | Commercial/ General Liability Risk Factor | C/G Liability Ins Required for Prequalification? |
|---------------|---|------------------------------------|--------------------------------------|---|--|
| 1.1 | Systems Planning | 2 | Yes | 1 | No |
| 2.1 | Traffic Data Collection | 1 | No | 3 | No |
| 2.2 | Traffic Forecasting | 3 | Yes | 1 | No |
| 3.1 | Non-Complex Traffic Capacity and Operations Analysis | 3 | Yes | 1 | No |
| 3.2 | Complex Traffic Capacity and Operations Analysis | 3 | Yes | 1 | No |
| 4.1 | Traffic Safety Analysis | 3 | Yes | 1 | No |
| 5.1 | Environmental Document Preparation - EA/EIS | 1 | No | 1 | No |
| 5.2 | Environmental Document Preparation - CE | 1 | No | 1 | No |
| 5.3 | Environmental Document Preparation - Section 4(f) | 1 | No | 1 | No |
| 5.4 | Ecological Surveys | 1 | No | 1 | No |
| 5.5 | Wetland Mitigation | 3 | Yes | 1 | No |
| 5.6 | Waterway Permits | 1 | No | 1 | No |
| 5.7 | Air Quality Analysis | 1 | No | 1 | No |
| 5.8 | Noise Analysis and Abatement Design | 3 | Yes | 1 | No |
| 5.9 | Archaeological Investigations | 1 | No | 1 | No |
| 5.10 | Historical/Architectural Investigations | 1 | No | 1 | No |
| 5.12 | Karst Studies | 1 | No | 1 | No |
| 5.13 | ESA Screenings Phase I ESA | 3 | Yes | 1 | No |
| 5.14 | Phase II ESA and Further Site Investigation/Corrective Action | 3 | Yes | 1 | No |
| 6.1 | Topographic Survey Data Collection | 3 | Yes | 3 | No |
| 7.1 | Geotechnical Engineering Services | 3 | Yes | 3 | No |
| 8.1 | Non-Complex Roadway Design | 3 | Yes | 3 | No |
| 8.2 | Complex Roadway Design | 4 | Yes, (at Fac. 3) | 3 | No |
| 8.3 | Roundabout Design | 4 | Yes, (at Fac. 3) | 3 | No |
| 9.1 | Level 1 Bridge Design | 3 | Yes | 3 | No |
| 9.2 | Level 2 Bridge Design | 4 | Yes, (at Fac. 3) | 3 | No |
| 10.1 | Traffic Signal Design | 3 | Yes | 3 | No |
| 10.2 | Traffic Signal System Design | 3 | Yes | 3 | No |
| 10.3 | Complex Roadway Sign Design | 3 | Yes | 3 | No |
| 10.4 | Lighting Design | 3 | Yes | 3 | No |
| 10.5 | Intelligent Transportation System Design | 3 | Yes | 3 | No |
| 10.6 | Intelligent Transportation System Integration | 3 | Yes | 3 | No |
| 11.1 | Right of Way Plan Development | 3 | Yes | 3 | No |
| 12.1 | Project Management for Acquisition Services | 1 | No | 1 | No |
| 12.2 | Title Research | 2 | Yes | 1 | No |
| 12.3 | Value Analysis | 2 | Yes | 1 | No |
| 12.4 | Appraisal | 2 | Yes | 1 | No |
| 12.5 | Appraisal Review | 2 | Yes | 1 | No |
| 12.6 | Negotiation | 2 | Yes | 1 | No |
| 12.7 | Closing | 1 | No | 1 | No |
| 12.8 | Relocation | 2 | Yes | 1 | No |
| 13.1 | Construction Inspection | 3 | Yes | 3 | No |
| 14.1 | Regular Bridge Inspection | 3 | Yes | 3 | No |
| 14.2 | Complex Bridge Inspection | 4 | Yes, (at Fac. 3) | 3 | No |
| 14.3 | Underwater/In-Water Bridge Inspection | 3 | Yes | 3 | No |
| 14.4 | Small Structure and Misc. Structure Inspections | 3 | Yes | 3 | No |
| 14.5 | Bridge Load Capacity Rating & Other Bridge Analysis/Testing | 3 | Yes | 3 | No |
| 16.1 | Utility Coordination | 2 | Yes | 3 | No |
| 17.1 | Drainage Design for Driveway Permits | 3 | Yes | 3 | No |
| 17.2 | Small Structure and Pipe Hydraulic Design | 3 | Yes | 3 | No |
| 17.3 | Storm Sewer and Detention Design | 3 | Yes | 3 | No |
| 17.4 | Bridge Hydraulic Design | 3 | Yes | 3 | No |
| 18.1 | Pavement Analysis – Design Services | 3 | Yes | 3 | No |

Professional Liability Insurance Level Requirements:

(Prequalification for categories factored 4 would only require factor 3 insurance coverage levels. Upon selection for services in a category factored 4, however, the coverage levels would be a contractual requirement.)

| <u>Risk Level</u> | <u>Per Occurrence/Aggregate Limit</u> |
|-------------------|---------------------------------------|
| 1 | \$0 / \$0 |
| 2 | \$250,000 / \$250,000 |
| 3 | \$1,000,000 / \$1,000,000 |
| 4 | \$5,000,000 / \$5,000,000 |

Commercial/General Liability Insurance Level Requirements: (To be included in contracts but not required for prequalification)

| <u>Risk Level</u> | <u>Per Occurrence/Aggregate</u> |
|-------------------|---------------------------------|
| 1 | \$0 / \$0 |
| 3 | \$1,000,000 / \$2,000,00 |

- E. **This section reserved for future revisions**
- F. **This section reserved for future revisions**
- G. **This section reserved for future revisions**

H. Prequalification Categories, Descriptions, and Requirements

1.0 - SYSTEMS PLANNING CATEGORY

1.1 - Systems Planning

General

Systems planning studies are necessary to provide the highest level of service in terms of safety and mobility on the INDOT transportation system. Systems planning studies provide a variety of professional services in assisting INDOT in making decisions on developing the state infrastructure.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** No professional license required.
- D. **Certification:** Accreditation as a member of the American Institute of Certified Planners, but not required.
- E. **Education:** No specific requirements.
- F. **Experience:**
 - 1. The qualifying person must have four (4) years of experience in the field of transportation planning,
 - or
 - 2. Direct experience in developing the analysis of two (2) or more transportation system planning studies.
- G. **Submittal Requirements**
 - 1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
 - 2. INDOT may require that the consultant provide additional supporting documents upon request.

2.0 - TRAFFIC DATA COLLECTION AND FORECASTING CATEGORY

2.1 - Traffic Data Collection

General

This work type is defined as the ability to perform traffic data collection at designated locations throughout the state. Counts will generally be 48 hours in duration, and may be of axle or vehicle type classification. All counts will be checked for reasonableness and accuracy, and a detailed report of data will be filed with the Agency.

All counts taken will be within the guidelines established the FHWA's Traffic Monitoring Guide, and within full compliance of INDOT's safety regulations and policies. All counting equipment used shall be accurate to the level of precision recommended by the AASHTO guidelines.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements below.
- C. **Licensure:** No professional license required.
- D. **Certification:** No certifications required.
- E. **Education:** The qualifying person should hold a bachelor's degree in mathematics, science or engineering.
- F. **Experience:**
 - 1. The qualifying person must have a minimum of three (3) years of experience in traffic data collection with a bachelor's degree.
 - 2. The qualifying person must have a minimum of five (5) years of experience in traffic data collection without a bachelor's degree.

Note: One year of qualifying experience is defined as a year with at least 90% of the time devoted to traffic data collection and reporting.

G. Equipment: The firm must provide a list of a minimum of thirty (30) working traffic counting devices, owned or leased by the company, that are capable of producing classification counts meeting the FHWA 13 classification scheme. INDOT may require that a copy of the equipment lease agreement be submitted with the application.

H. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

2.2 - Traffic Forecasting

General

The ability to make traffic forecasts, based on traffic data that may be supplied or collected. The forecasts will be used primarily by engineering production. The traffic forecasts will be for various specified periods of time and may be required to include discussions on:

1. The growth factor used in preparing the traffic forecasts.
2. Annual Average Daily Traffic (AADT) for the years required.
3. Design Hourly Volume (DHV) expressed as a percentage of the AADT in the future year with A.M. and P.M. DHV for urban areas.
4. Commercial vehicles expressed as a percentage of the AADT and DHV of the future year.
5. Directional distribution of traffic.
6. Traffic for build and no build alternatives.
7. Assignments of turning movements for intersections.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements below.
- C. **Licensure:** No professional license required.
- D. **Certification:** No certifications required.
- E. **Education:**
 1. The qualifying person should hold a Bachelor of Science or Arts Degree in any of the following disciplines: Urban Planning, Engineering, Mathematics, Statistics or Social Science; or a Master's Degree in Planning or Public Administration.
 2. All candidates shall have at least one 3-hour college or personal development course in planning and one 3-hour college or personal development course in statistics.

- F. Experience:** The qualifying person must have a minimum of four (4) years of experience in the field of Traffic Forecasting with a master's degree, five (5) years with a bachelor's degree or seven (7) years without a degree.

Note: One year of qualifying experience is defined as a year with at least 70% of work time devoted to forecasting projects.

G. Submittal Requirements

1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

3.0 - TRAFFIC CAPACITY AND OPERATIONS ANALYSIS CATEGORY

Definition

Assessment of capacity to convey traffic and adequacy of service to users for existing and planned transportation facilities. This principally involves application of analytical procedures for freeways, two- and multilane highways, intersections, pedestrian elements, etc. outlined in the Highway Capacity Manual (HCM); in select cases, supplemented by other conventional means of gauging quality of traffic operation (e.g., microsimulation and related modeling techniques).

3.1 - Non-complex Traffic Capacity and Operations Analysis

General

Traffic capacity and operations analysis is defined as the assessment of capacity to convey traffic and adequacy of service to users for existing and planned transportation facilities. This work type is defined as, routine traffic capacity and operations analysis of low to moderate complexity. Examples in this class include assessment of rural highways, basic freeway segments, roundabouts and isolated and simple intersections and interchanges. The assessment of capacity to convey traffic and adequacy of service to users for existing and planned roundabouts principally involves the use capacity analysis software, such as ARCADY, SIDRA, RODEL, HCM 2010 or equivalent.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a professional engineer licensed in the State of Indiana.
- D. **Certification:** No certification required.
- E. **Education:** The qualifying person must have a BS or master's degree in Civil Engineering.

F. Experience:

1. One (1) year of relevant work experience in the field of traffic capacity and operations analysis within the past three (3) years. Higher education or professional development obtained within the past three (3) years related to the field may substitute work experience on a year for year basis.
2. The qualifying person must provide a list of two (2) or more projects demonstrating their experience in non-complex traffic capacity and operations analysis described in the General section of this work type.

Note: Sheer scale of work, necessity for quality control, or other factors within a particular Request for Proposals (RFP) will in some circumstances call for two (2) or more qualified personnel, either within one firm or through resources pooled from multiple firms.

G. Submittal Requirements

1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

3.2 - Complex Traffic Capacity and Operations Analysis

General

Traffic capacity and operations analysis is defined as the assessment of capacity to convey traffic and adequacy of service to users for existing and planned transportation facilities. This work type principally involves application of analytical procedures for freeways, two- and multilane highways, intersections, pedestrian elements, etc. outlined in the Highway Capacity Manual (HCM); in select cases, supplemented by other conventional means of gauging quality of traffic operation (e.g., micro simulation and related modeling techniques).

Complex traffic capacity and operations analysis refers to multiple related intersections in a series or grid, non-routine complex interchanges, or a series of related interchanges.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a professional engineer licensed in the State of Indiana.
- D. **Certification:** No certification required.
- E. **Education:** The qualifying person must have a BS or master's degree in Civil Engineering.
- F. **Experience:**
 - 1. The qualifying person must have three (3) years of relevant work experience in the field of traffic capacity and operations analysis within the past four (4) years. Higher education or professional development obtained within the past four (4) years related to the field may substitute work experience on a year for year basis.
 - 2. The qualifying person must provide a list of two (2) or more projects demonstrating his/her experience in the type traffic capacity and operations analysis described in the General section of this work type.

Note: Sheer scale of work, necessity for quality control, or other factors within a particular Request for Proposals (RFP) will in some circumstances call for two (2) or more qualified personnel, either within one firm or through resources pooled from multiple firms.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

4.0 - TRAFFIC SAFETY ANALYSIS CATEGORY

4.1 - Traffic Safety Analysis

General

Traffic Safety Analysis is the assessment of conditions with respect to traffic safety. This form of highway and street operations analysis involves collection and reduction of crash data; assessment of crash patterns, frequency, and rates; recognition of cause and effect; prediction of crash risk; and selection of effective countermeasures. The engineering task systematically applies analytical procedures at regional and site-specific levels.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a professional engineer licensed in the State of Indiana.
- D. **Certification:** No certification required.
- E. **Education:** The qualifying person must have a BS or master's degree in Civil Engineering.
- F. **Experience:** The qualifying person must have three (3) years of relevant work experience in the field of traffic safety analysis within the past four (4) years. Higher education or professional development obtained within the past four (4) years related to the field may substitute work experience on a year for year basis.

Note: The sheer scale of work, necessity for quality control, or other factors within a particular Request for Proposals (RFP) will in many circumstances call for two (2) or more qualified personnel, either within one firm or through resources/teams pooled from multiple firms.

G. **Submittal Requirements**

- 1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
- 2. INDOT may require that the consultant provide additional supporting documents upon request.

5.0 - ENVIRONMENTAL SERVICES CATEGORY

Definition

The preliminary development/engineering phase for transportation projects is described in INDOT's Procedure Manual for Preparing Environmental Studies and Indiana's Streamlining EIS Procedures. National Environmental Policy Act (NEPA) requirements must be met. A complete list of manuals can be found by referencing <http://www.in.gov/indot/2523.htm>.

Preliminary development/engineering is a dynamic process which begins after a problem is identified in the planning process and described in a Purpose and Need Statement. The goal of the preliminary development/engineering phase is the selection of an appropriate solution to the transportation problem. This solution is then followed through to final environmental clearance. The preliminary development/engineering phase is generally followed by detailed design, construction and operation if the solution involves new construction or rehabilitation of a highway facility.

The process has many parts including impact studies in a number of specialized areas leading to preparation of an environmental document. These areas are identified in the prequalification specifications. Preparation of the environmental document requires synthesis of all the specialty impact study areas. For federal-assisted or regulated projects, the environmental documentation requirements are extensive and spelled out, not just in the INDOT's Procedure Manual for Preparing Environmental Studies, but also in numerous federal and state regulations and laws. These regulations require that an Environmental Assessment (EA) or Environmental Impact Statement (EIS) be prepared unless the project is categorically excluded (CE) from such requirements. This environmental portion of the preliminary development/engineering phase requires careful coordination which is a critical part of the decision making process.

Successful completion of the preliminary development/engineering phase requires integration of many disciplines. The identified primary environmental prequalification areas or categories are:

1. Environmental Document Preparation - EA/EIS
2. Environmental Document Preparation - CE
3. Environmental Document Preparation - Section 4(f)
4. Ecological Surveys
5. Wetland Mitigation
6. Waterway Permits
7. Air Quality Analysis
8. Noise Analysis and Abatement Design
9. Archaeological Studies
10. History/Architectural Investigations
11. ESA Screening, ESA Phase I & II, ESA Remedial Design

- 12.** Karst Studies
- 13.** Threatened and Endangered Species Studies (section not developed yet)
- 14.** Asbestos Investigations (section not developed yet)

These categories have specialized documentation requirements and are a part of the interdisciplinary expertise approach to transportation decision making described in the

Environmental Procedural Manual and other INDOT environmental guidelines. Educational and experience requirements are described under each of these prequalification categories; however, all require some familiarity with INDOT guidelines and environmental documentation requirements for 4(f), CE, EA and EIS documents. There are no prequalification requirements for addressing public involvement, social and economic impacts, land use and planning. These are part of the interdisciplinary approach and must be incorporated into the document. Thus, the project manager should have some familiarity with these areas. Although engineering plays a vital role in the project development procedures, it has been determined that use of the engineering prequalification requirements from the roadway design and soils/geotechnical areas will generally suffice and that development of special prequalification requirements for engineering during the preliminary development phase are unnecessary.

This area of prequalification includes both management of the Preliminary Development/Engineering Phase of the Project Development Process as defined in the Project Development Process Manual, Environmental Manual and other INDOT guidelines; and, preparation of the environmental document. Consulting firms desiring to function as the prime Consultant for the Preliminary Development/Engineering Phase of the Project Development Process must have one (1) or more employees meeting INDOT's prequalification requirements who will act as the project manager or as a key professional, managing critical portions of this process including environmental document preparation. Given the nature of this interdisciplinary approach, it is inappropriate to specify a single discipline or educational background for this prequalification area. The requirements reflect the most appropriate general educational backgrounds but are not exclusive to certain degrees or licenses.

5.1 - Environmental Document Preparation – EA / EIS

General

An Environmental Assessment (EA) is a decision document. An EA is prepared to enable the agency to make a decision as to whether the project requires preparation of an EIS or has no significant impact to the human environment.

Environmental Impact Statements (EIS) are prepared for major transportation actions that result in significant adverse impacts to the human environment. Coordination with resource agencies and a number of technical environmental studies is expected to be necessary, resulting in the identification of significant adverse impacts, suitable mitigation measures and the preparation of an EIS.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements below.
- C. **Licensure:** No professional license required.
- D. **Certification:** The qualifying person must have completed the four day INDOT NEPA Certification initial training and must then attend the one day INDOT NEPA Certification refresher training every two (2) years. Qualifying persons that have not attended the one day refresher course in the past two (2) or more years may be required to re-take the four day initial training for reinstatement of their certification.
- E. **Education:** The qualifying person must hold a bachelor's degree within the field of environmental science, planning or engineering.
- F. **Experience:**
 - 1. The qualifying person must have a minimum of three (3) years of work experience in the field of Environmental Document Preparation with a bachelor degree in one of the fields stated above in, **D. Education** or two (2) years of work experience in the field of Environmental Document Preparation with a master's degree in one of the fields stated above in, **D. Education**.
 - 2. The qualifying person must have prepared a minimum of two (2) EA/EIS reports or a minimum of four (4) Categorical Exclusions (CE). Only documents

approved within the ten (10) years prior to the submission date of the prequalification application being reviewed will be considered.

G. Submittal Requirements:

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include the following; a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the qualifying person provide additional supporting documents upon request.

5.2 - Environmental Document Preparation - CE

General

Categorical Exclusions are actions which meet the definition contained in 40 CFR 1508.4 and, based on past experience with similar actions, do not involve significant social, economic or environmental impacts. They are actions which:

1. Do not induce significant impacts to planned growth or land use for the area.
2. Do not require the relocation of significant numbers of people.
3. Do not have a significant impact on any natural, cultural, recreational, historic, or other resource.
4. Do not involve significant air, noise, or water quality impacts.
5. Do not have significant impacts on travel patterns; or
6. Do not otherwise, either individually or cumulatively, have any significant environmental impact.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements below.
- C. **Licensure:** No professional license required.
- D. **Certification:** The qualifying person must have completed the four day INDOT NEPA Certification initial training **and** the one day INDOT NEPA CE training. The qualifying person must then attend the one day INDOT NEPA Certification refresher training every two (2) years. Attending the one day refresher course renews both the NEPA and NEPA CE certifications. Qualifying persons that have not attended the one day refresher course in the past two (2) or more years may be required to re-take the four day initial training for reinstatement of their certification.
- E. **Education:** The qualifying person must hold a bachelor's degree within the field of environmental science, planning or engineering.

F. Experience:

1. The qualifying person must have a minimum of three (3) years of work experience in the field of Environmental Document Preparation with a bachelor degree in one of the fields stated above in, **D. Education** or two (2) years of work experience in the field of Environmental Document Preparation with a master's degree in one of the fields stated above in, **D. Education**.
2. The qualifying person must have prepared a minimum of four (4) categorical exclusions. Only documents approved within the ten (10) years prior to the submission date of the prequalification application being reviewed will be considered.

G. Submittal Requirements:

1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include the following; a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the qualifying person provide additional supporting documents upon request.

5.3 - Environmental Document Preparation - Section 4(f)

General

Environmental Section 4(f) as defined in 48 U.S.C. 303, 23 U.S.C. 138 and 23 CFR 771.135 documents are prepared for any level of project that affects, or has the potential to affect, a Section 4(f) resource. Section 4(f) documentation may be a Determination of Use of Section 4(f), a Programmatic Section 4(f) Evaluation or an Individual Section 4(f) Evaluation.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements below.
- C. **Licensure:** No professional license required.
- D. **Certification:** The qualifying person must have completed the four day INDOT NEPA Certification initial training and must attend the one day INDOT NEPA Certification refresher training every two (2) years. Qualifying persons that have not attended the one day refresher course in the past two (2) or more years may be required to re-take the four day initial training for reinstatement of their certification.
- E. **Education:** The qualifying person must hold a bachelor's degree within the field of environmental science, planning or engineering.
- F. **Experience:**
 - 1. The qualifying person must have a minimum of three (3) years of work experience in the field of Environmental Document Preparation with a bachelor degree in one of the fields stated above in, **D. Education** or two (2) years of work experience in the field of Environmental Document Preparation with a master's degree in one of the fields stated above in, **D. Education**.
 - 2. The qualifying person must have prepared a minimum of three (3) documents for any level of project that affects, or has the potential to affect, a Section 4(f) resource. Only documents approved within the ten (10) years prior to the submission date of the prequalification application being reviewed will be considered.

G. Submittal Requirements:

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include the following; a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

5.4 - Ecological Surveys

General

The areas of ecological prequalification are based upon knowledge of and experience in the performance of ecological surveys (aquatic, terrestrial, wetland delineation) and wetland mitigation and the completion of waterway permits. Consultants should also be familiar with the U.S. Army Corps of Engineers (USACE) 404 permit requirements since much of the identification of resources requiring permits (waters of the United States and "special aquatic sites") will be a part of the ecological survey and will subsequently be used for preparation of the waterway permit application. For wetland delineation work the Consultants shall be familiar with and have experience using the current legally accepted USACE Wetlands Delineation Manual (USACE 1987).

An ecological survey is an ecological analysis of the following major areas: water quality, aquatic ecosystems, endangered species, wetlands and terrestrial ecosystems. For projects involving instream work, wetlands, or significant amounts of new right of way, literature searches and ecological surveys are performed to inventory the resources in the vicinity of the proposed project. The data is analyzed and an ecological survey report is prepared. This report presents the data, interprets it and predicts impacts based on preliminary project design.

Prequalification to perform ecological surveys combines the requirements of aquatic ecology, terrestrial ecology and wetland delineation. A consulting firm requesting prequalification in ecological surveys must have at least one person on staff that meets the requirements of each discipline (may be the same or different individuals for each discipline).

Aquatic Ecology is the ability to identify aquatic organisms, fish and macroinvertebrate communities and understand how they interact with their environment, including a basic knowledge of water chemistry, interpretation of water quality data and familiarity with highway related water quality impacts. For highway projects requiring new right-of-way that impact aquatic ecosystems, this work will include identification of jurisdictional streams, data collection, analysis and impact predictions and will incorporate this information into an ecological survey report. Data collection for each stream studied will include completion of either Indiana Department of Environmental Management's (IDEM) Qualitative Habitat Evaluation Index (QHEI) form or their Headwaters Habitat Evaluation Index (HHEI) form, and Indiana Wetlands Rapid Assessment Protocol (INWRAP) training as appropriate and whichever is applicable.

Terrestrial Ecology is the ability to identify terrestrial organisms and plant and animal communities and the understanding of how they interact with their environment. For highway projects requiring new right-of-way, the work will include data collection, analysis and impact predictions and incorporation of this information into an ecological survey report.

Wetland Delineation is the ability to identify and delineate jurisdictional wetlands as defined by the most current U. S. Army Corps of Engineers' (USACE) Wetlands Delineation Manual

and isolated wetlands as defined by IDEM's Isolated Wetlands Law.

Requirements

- A. Prerequisite Work Type Approval:** No prior work type approval required.
- B. Qualifying Person(s):** The firm must have at least one (1) full time employee on staff that meets all of the requirements of each discipline (may be the same or different individuals for each discipline). A minimum of one (1) qualifying person and a maximum of three (3) will be allowed.
- C. Licensure:** No professional license required.
- D. Certification:** Completion of a recognized wetland delineation training course is required for the Wetland Delineation portion of the work type.
- E. Education:**
 - 1. Aquatic Ecology:** The qualifying person for this portion of the work type must hold a Bachelor of Science degree in biology, environmental science or natural resources with at least three (3) 3-hour courses from or related to those in the following list: aquatic ecology, limnology fisheries, ichthyology hydrology, aquatic plant taxonomy, aquatic entomology, potamology *or* a degree as noted above and a minimum of four (4) years of experience in a position including direct responsibility for and participation in conducting surveys for and documenting aquatic fauna and flora.
 - 2. Terrestrial Ecology:** The qualifying person for this portion of the work type must hold a Bachelor of Science degree in biology, environmental science or natural resources with at least three (3) 3-hour courses from the following list: vertebrate zoology, wildlife management, wildlife ecology, mammalogy, herpetology, ornithology, botany, terrestrial ecology, plant taxonomy, forestry *or* a degree as noted above and a minimum of four (4) years of experience in a position including direct responsibility for and participation in conducting surveys for and documenting terrestrial flora and fauna.
 - 3. Wetland Delineation:** Equivalent to that required for terrestrial or aquatic ecology **plus** the completion of a recognized wetland delineation training course.

F. Experience:

- 1. Aquatic Ecology:** Three (3) years with a Bachelor's degree or two (2) years with a graduate degree. Qualifying Experience should include a minimum of two (2) projects involving field studies, publications, or presentations at a scientific meeting demonstrating:
 - a. Proficiency in the taxonomy, sampling and/or ecology of freshwater fish or freshwater macroinvertebrates and water quality data collection and interpretation.
 - b. Experience in the assessment of the impacts of construction projects on freshwater aquatic life, including mitigation measures.
 - c. A knowledge of Indiana and Federal rare, threatened and endangered species.

- 2. Terrestrial Ecology:** Three (3) years with a Bachelor's degree or two (2) years with a graduate degree. Qualifying experience should include a minimum of two (2) projects involving field studies, publications, or presentations at a scientific meeting demonstrating:
 - a. Proficiency in the taxonomy, sampling and/or ecology of terrestrial plants and animals.
 - b. Experience in the assessment of the impacts of construction projects on terrestrial ecology, including mitigation measures.
 - c. A knowledge of Indiana and Federal rare, threatened and endangered species.

- 3. Wetland Delineation:** Three (3) years with a Bachelor's degree or two (2) years with a graduate degree. Qualifying experience should include work having to do with the classification, delineation and description of jurisdictional wetlands, including production of the following:
 - a. Four (4) wetland delineations done in accordance with USACE delineation procedures.
 - b. A field study demonstrating competence in sampling and analytical procedures involving wetlands.
 - c. An assessment involving the prediction of construction impacts upon wetland function.

Note: The USACE certification of wetland delineators is presently available for only a few Corps Districts. When available in Indiana, it will be utilized in INDOT's prequalification for wetland delineation.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. The qualifying person(s) must provide a copy of their college transcript or a list of the required college course work completed.
3. The qualifying person for the Wetland Delineation portion of the work type must provide documentation verifying completion of a recognized wetland delineation course.
4. INDOT may require that the consultant provide additional supporting documents upon request.

5.5 - Stream and Wetland Mitigation

General

Stream and wetland mitigation involves the location, design, construction, restoration, enhancement, monitoring and maintenance of streams and wetlands required as replacement for resources impacted by construction activity.

Requirements

- A. **Prerequisite Work Type Approval:** Prior approval of work type 5.4 – Ecological Surveys is required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the following requirements:
- C. **Licensure:** No professional license required.
- D. **Certification:** No certifications required.
- E. **Education:** The qualifying person must hold a bachelor’s degree in biology, environmental science, natural resources, or the field of environmental engineering.
- F. **Experience:**
 - 1. The qualifying person must have designed four (4) stream and/or wetland mitigation projects within the past six (6) years with a bachelor’s degree in one of the fields stated in **B.3**
 - or
 - 2. Must have designed two (2) stream and/or wetland mitigation projects within the past four (4) years with a graduate degree in one of the fields stated in **B.3**.
 - 3. The USACE, state regulatory agency and applicant must have approved the mitigation and monitoring plan and site design for the qualifying projects submitted.
- G. **Submittal Requirements**
 - 1. A list of qualifying projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of construction completion, progress towards meeting success criteria and a detailed description of the individual’s responsibilities on the project as they relate to the experience requirements.
 - 2. INDOT may require that the consultant provide additional supporting documents upon request.

5.6 - Waterway Permits

General

Permits for temporary or permanent impacts resulting from construction activity occurring within a regulated wetland, waterway or floodplain may be required. The U.S. Army Corps of Engineers (USACE) 404 permit, Indiana Department of Environment Management (IDEM) 401 Water Quality Certification and Indiana Department of Natural Resources (IDNR) Construction in a Floodway permit are the three primary permits that may be required for INDOT projects.

Requirements

- A. **Prerequisite Work Type Approval:** Prior approval of work type 5.4 – Ecological Surveys is required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the following requirements:
- C. **Licensure:** No professional license required.
- D. **Certification:** No certifications required.
- E. **Education:** The qualifying person must hold a bachelor’s degree in biology, environmental science, natural resources, or engineering field.
- F. **Experience:**
 - 1. The qualifying person must have a direct and major contribution in four (4) projects involving preparation of waterway permits within the past five (5) years with a bachelor’s degree in one of the fields listed in **B.3**
 - or**
 - 2. Must have participated in two (2) projects involving the preparation of waterway permits within the past five (5) years with a graduate degree in one of the fields listed in **B.3**.
 - 3. The qualifying person must have successfully prepared four (4) permit applications that required submittal to the regulatory agency and that received a permit. The applications must include at least one (1) USACE 404 permit and a construction in a floodplain/floodway permit.

G. Submittal Requirements

1. A list of qualifying projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, permits required and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

5.7 - Air Quality Analysis

General

An air quality analysis is performed for highway projects where construction causes an increase in traffic sufficient enough to create an impact on the surrounding air quality. The analysis must quantify these impacts for carbon monoxide only in non-attainment areas.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** No professional license required.
- D. **Certification:** No certification required.
- E. **Education:** The qualifying person must have a Bachelor of Science degree in Engineering, Environmental Sciences or Meteorology, including three (3) 3-hour courses relating to Air Quality (i.e., Meteorology, Engineering Principles or Dispersion Modeling); or a Bachelor of Arts degree with course work related to Transportation Planning.
- F. **Experience:**
 - 1. The qualifying person must have three (3) years of experience in the field of Air Quality Analysis with a Bachelor of Science or Bachelor of Arts degree, or two (2) years of experience in the field with a graduate degree (one (1) year if research or dissertation was related to air quality principles).
 - 2. The qualifying person must list a minimum of two (2) projects that show research or documentation which demonstrating a knowledge of air pollution meteorology, dispersion modeling, and engineering principles.
 - 3. The qualifying person must list a minimum of three (3) projects demonstrating experience in the use of current USEPA and FHWA accepted computer models (i.e., mobile source emissions model and dispersion model) in the assessment of impacts of construction projects on the ambient air quality, including mitigation measures as required by the Clean Air Acts Amendments of 1990.

G. Submittal Requirements:

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

5.8 - Noise Analysis and Abatement Design

General

A traffic noise analysis is performed for new highway construction or highway improvement for the following purposes: defining areas of potential noise impacts for each study alternative, evaluating measures to mitigate these impacts, and comparing the various study alternatives on the basis of potential noise impact and associated mitigation costs.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** No professional license required.
- D. **Certification:** No certification required.
- E. **Education:** Bachelor of Science degree in Engineering, Environmental Sciences or a Bachelor of Arts degree with course work related to Transportation Planning.
- F. **Experience:**
 - 1. The qualifying person must list a minimum of two (2) projects that show research or documentation which demonstrate knowledge of noise impact assessment and engineering principles.
 - 2. The qualifying person must list a minimum of three (3) projects that demonstrate experience in the assessment of traffic noise impacts using current noise prediction computer models that incorporate FHWA noise emission factors. FHWA Transportation Noise Model (TNM) or most current FHWA model for highway noise assessment and FHWA Integrated Noise Model (INM) for airport noise assessment are acceptable models. Experience should also include abatement design as required by 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise".
 - 3. The qualifying person must list a minimum of three (3) projects demonstrating familiarity with the FHWA Publication "Highway Traffic Noise Analysis and Abatement Policy and Guidance", dated June 1995 or most current edition of this publication.
 - 4. The qualifying person must list a minimum of three (3) projects demonstrating experience in using integrated sound level meters and/or analyzer.

G. Submittal Requirements:

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

5.9 - Archaeological Investigations

General

INDOT uses 36 CFR 61 Appendix A and 312 Indiana Administrative Code (IAC) 21-3-4 to evaluate cultural resource firms and their products with respect to minimum staff qualifications and reporting standards for archaeological investigations. This is done to ensure that project personnel have the training appropriate for the level of work that they are undertaking. INDOT's scope of services for archaeological investigations include, but are not limited to the following activities:

1. Phase 1a, 1b and 1c field reconnaissance and preparation of associated reports.
2. Phase II test excavations and preparation of associated reports.
3. Phase III mitigation or data recovery excavations and preparation of associated reports.
4. Preparation of Cemetery Development Plans per IC 14-21-1-26.5
5. Preparation of National Register Nomination applications.
6. Consultation with the State Historic Preservation Officer, agency officials and other Section 106 consulting parties, including sending invitations, preparing early coordination letters and holding consulting parties meetings.
7. Preparation of the Section 106 Recommendation for Area of Potential Effect, Eligibility Determination(s), Effect Finding and Section 4(f) Compliance Requirements for Historic Properties and supporting 800.11(d) or 800.11(e) documentation.
8. Preparation of Memorandum of Agreement documents recording the terms and conditions agreed upon to resolve the adverse effects of an undertaking on historic resources.
9. Preparation of Certificate of Approval as required by IC 14-21-1-18 (a) and (b)

Consulting firms with this prequalification may perform some or all levels of investigation for archaeological resources and must produce acceptable reports for resources in the project area, study area or area of potential effect.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** No professional license required.

D. Certification:

1. The qualifying person must be on the Division of Historic Preservation and Archaeology's (DHPA) Qualified Professionals Roster of Prehistoric and Historic Archaeological Consultants available on the Indiana Department of Natural Resources' website.
2. The qualifying person must provide a certificate of completion from federally sponsored or endorsed Section 106 training (such as those provided by ACHP, NPI, SRI, etc.).

E. Education:

1. The qualifying person must hold a graduate degree in anthropology or a closely related field with a specialization in archaeology at the graduate level.
2. Graduate course work and training in archaeology, including theory, methods, techniques, cultural areas, and field and laboratory techniques.
3. At INDOT's sole discretion, the above degree requirements can be waived where, in INDOT's determination, the qualifying person has sufficient field experience in archeology to demonstrate expertise in the subject matter, including theory, methods, techniques, cultural areas, and field and laboratory techniques.

F. Experience:

1. The qualifying person must list a minimum of three (3) projects, on which they were the principal investigator, that demonstrate their experience in performing archaeological work in accordance with guidelines set by the DHPA.
2. Three (3) years of experience in anthropology or a related field, consisting of at least two (2) years as a supervisor in archaeological survey and excavation and one (1) year of laboratory cataloging and analysis and the preparation of a research-oriented monograph, thesis, or dissertation.

G. Submittal Requirements:

1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, whom it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
2. Certificate of Completion from federally sponsored or endorsed Section 106 training.

INDOT may require that the consultant provide additional supporting documents upon request.

5.10 - Historical/Architectural Investigations

General

INDOT uses 36 CFR 61 Appendix A to evaluate firms and their products with respect to minimum staff qualifications and reporting standards for historical/architectural investigations. This is done to ensure that project personnel have the training appropriate for the level of work that they are undertaking.

Historical/Architectural Investigations and equivalent INDOT scope of services stages are:

1. Determinations of areas of potential effect.
2. Identification of cultural properties (research and fieldwork) including historic property/district reports.
3. Prepare boundary determinations.
4. Determinations of eligibility.
5. Preliminary Findings of effect.
6. Consult with consulting parties, including sending invitations and holding consulting parties meetings.
7. Consult with the State Historic Preservation Officer and other agency officials.
8. National Register preparation.
9. HABS/HAER documentation.
10. Prepare the INDOT/FHWA Area of Potential Effect, Eligibility Determination(s), and Effect Finding form.
11. Prepare INDOT/FHWA 800.11(d) or 800.11(e) documentation.
12. Prepare INDOT/FHWA Memorandum of Agreement documentation.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** No professional license required.
- D. **Certification:**
 1. The qualifying person must be listed on the Division of Historic Preservation and Archaeology's (DHPA) Qualified Professionals Roster of Historians and Architectural Historian available on the Department of Natural Resource's website.
 2. The qualifying person must have completed INDOT's Cultural Resources/Section 106 training or equivalent Section 106 training as determined by the administrator of INDOT's Cultural Resources Section.

- E. Education:** No specific education requirements.
- F. Experience:** The qualifying person must list a minimum of three (3) projects where FHWA guidelines and regulations relative to historical/architectural analysis of transportation projects were followed.
- G. Submittal Requirements:**
 - 1.** A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
 - 3.** A copy of the Section 106 training certificate must be uploaded to the application.
 - 2.** INDOT may require that the consultant provide additional supporting documents upon request.

5.11 - Environmental Site Assessment

This work type has been revised and is no longer valid. These services are now covered under work types **5.13 – ESA Screenings and Phase I ESA** and **5.14 – Phase II ESA, Further Site Investigation/Corrective Action**.

5.12 - Karst Evaluation

General

Karst evaluations are conducted to determine the presence or absence of karst features in the area surrounding transportation projects located in the karst regions of the state. Karst regions are characterized by the presence of limestone or other soluble bedrock material and the formation of sinkholes, sinking streams, springs and caves. Karst topography results in the subterranean movement of water. A karst evaluation includes the review of existing information and research, outreach activity, identification and classification of karst features, and proposed treatment of karst features to provide protection from contamination.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the following requirements:
- C. **Licensure:** Licensed Professional Geologist - State of Indiana.
- D. **Certification:** No certification required.
- E. **Education:** The qualifying person must hold a Bachelor of Science or graduate degree in geology, hydrogeology, or a closely related field.
- F. **Experience:**
 - 1. The qualifying person must list a minimum of two (2) projects where they have completed a karst study that complies with the INDOT/IDNR/IDEM/USFWS Karst Memorandum of Understanding (MOU) and resulted in the identification of karst features.
 - or
 - 2. The qualifying person must list a minimum of three (3) projects that demonstrate experience in identifying and analyzing karst features and designing treatment of drainage in karst regions related to the construction of transportation projects.
 - and
 - 3. The qualifying person must list two (2) projects demonstrating their experience in calculating estimates of annual pollutant loads from drainage within the right-of-way, including pre-construction, construction and post-construction.

G. Submittal Requirements:

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the qualified individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

5.13 - ESA Screening and Phase I ESA

General

Environmental Site Assessment (ESA) is the investigative process utilized to determine if a parcel of property has been impacted with hazardous substances and/or petroleum products. The primary purpose of the ESA process is to establish a defense to Comprehensive Environmental Response Compensation and Liability Act (CERCLA) liability. An ESA is required when land acquisition is necessary for highway development or when study of properties suspected of being impacted by hazardous substances and/or petroleum products are adjacent to or near transportation projects.

The ESA screening and Phase I ESA are investigations into the current and/or past practices using guidance from ASTM 1528-14 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process and ASTM 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. The completion of these documents enables INDOT to integrate issues resulting from environmental impacts into property acquisition and project planning.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a:
 - 1. A Professional Engineer licensed in the State of Indiana
or
 - 2. A Professional Geologist licensed in the State of Indiana
or
 - 3. The qualifying person must be certified as described under **D. Certification** below.
- D. **Certification:** A qualifying person that **does not hold** either of the professional licenses listed under **C. Licensure** above must be:
 - 1. Designated as a Certified Hazardous Material Manager (CHMM) through the Institute of Hazardous Materials Management.
or
 - 2. A registered Professional Soil Scientist listed on the Indiana Registry of Soil Scientists or the list available on the Soil Science Society of America (SSSA) website.

- E. Education:** The qualifying person must have a bachelor's degree or higher from an accredited institution of higher education with a combined total of thirty (30) hours of course work in chemistry, biology, geology, or environmental science.
- F. Experience:** The qualifying person must have completed a minimum of five (5) Phase I ESA reports using ASTM E1527-13 standard within the five (5) year period prior to the submission date of this application.
- G. Submittal Requirements:**
 - 1.** A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
 - 2.** A copy of the qualifying person's CHMM Certificate if applicable.
 - 3.** A copy of the qualifying person's Professional Soil Scientist Certificate if applicable.
 - 4.** INDOT may require that the consultant provide additional supporting documents upon request.

5.14 - Phase II ESA and Further Site Investigation/Corrective Action

General

A Phase II Environmental Site Assessment (ESA) and/or further site investigation/corrective action as defined by the IDEM Remediation Closure Guide may be necessary if INDOT determines that acquisition of a contaminated parcel of land is necessary for highway development, or if the Phase I ESA/Screening Transaction process determines that a property adjacent to or near a transportation project may impact that project. The Phase II ESA will be performed in accordance with ASTM E1903-11 Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process. Further site investigation and/or corrective action will be developed and implemented in accordance with the IDEM's Non rule Policy Document, Remediation Closure Guide, or as directed by specific IDEM program guidance.

Requirements

- A. Prerequisite Work Type Approval:** No prior work type approval required.
- B. Qualifying Person(s):** The firm must have one (1) full time employee meets all of the requirements below.
- C. Licensure:** The qualifying person must be:
1. A Professional Engineer licensed in the State of Indiana
or
 2. A Professional Geologist licensed in the State of Indiana
or
 3. The qualifying person must be certified as described under **D. Certification** below.
- D. Certification:** A qualifying person that does not hold either of the professional licenses listed under **C. Licensure** above must be
1. Designated a Certified Hazardous Material Manager (CHMM) through the Institute of Hazardous Materials Management.
or
 2. A registered Professional Soil Scientist listed on the Indiana Registry of Soil Scientists or the list available on the Soil Science Society of America (SSSA) website.
also
 3. The qualifying person, regardless of professional licenses or certifications, must be current on training required under 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response (HAZWOPER) as required for supervisory personnel. This includes the following:

- a. Initial training of forty (40) hours of classroom instruction plus three (3) days of actual field experience under the direct supervision of a trained, experienced supervisor.
 - b. Eight (8) hours of annual refresher training.
- E. **Education:** The qualifying person must have a bachelor's degree or higher from an accredited institution of higher education with a combined total of thirty (30) hours of course work in chemistry, biology, geology, or environmental science.
- F. **Experience:**
 - 1. The qualifying person must demonstrate experience in hydrology modeling and have been responsible for the successful design, implementation, and monitoring of at least three (3) Further Site Investigation/Corrective Action Plan projects in the past five (5) years using IDEM's Risk Integrated System of Closure (RISC) or Remediation Closure Guide, or equivalent experience in another state.
- G. **Submittal Requirements**
 - 1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
 - 2. A copy of the qualifying person's CHMM Certificate if applicable.
 - 3. A copy of the qualifying person's Professional Soil Scientist Certificate if applicable.
 - 4. A copy of the qualifying person's certificate of completion of HAZWOPER 40 hour training or refresher training.
 - 5. INDOT may require that the consultant provide additional supporting documents upon request.

6.0 - Topographic Survey Data Collection Category

6.1 - Topographic Survey Data Collection

General

Topographic survey data collection provides the designers with the necessary ground and property information to complete the design and right-of-way acquisition for any project. The data is collected, processed and delivered in an electronic format for the designer to use to prepare the planimetrics and the design Triangulated Irregular Network (TIN) models. This is used to define the existing ground information so that the designer can compute quantities and right-of-way requirements. The Location Control Route Survey Plat is also a deliverable with the design survey. This document gives the location of the centerline and its relationship with the existing United States Property Land System (USPLS) land corners, property corners and subdivision corners of interest for the project.

INDOT distinguishes two distinct areas of responsibility when preparing engineering surveys, namely the field survey function and the review function. The Consultant's prequalification status is based on the training and experience of the survey Consultant.

The surveyor shall be responsible for producing surveys that conform to the following specifications:

INDOT's Real Estate Policies and Procedures Manual, INDOT's Location and Design Manual, INDOT's Location and Design Sample Plan Sheets, INDOT's Survey Manual, Title 865 of the Indiana Administrative Code (I.A.C.), Project specific Scope of Services requirements, and Other specifications and manuals as applicable.

The survey Consultant shall be responsible for collecting all of the data necessary for the design topography and the property information necessary to write the deeds for any additional right-of-way needed. They are also responsible for the preparation of the survey field book and the field portion of the Location Control Survey Route Plat.

Experience as a surveyor or reviewer requires actual hands-on field survey. Work in the general oversight of a project or in a strictly managerial capacity does not qualify for field survey or reviewer experience. The field surveyor and survey reviewer cannot be the same individual.

The survey is based on INDOT or similar standards, includes the performance of courthouse research, the practice of surveying (as defined in IAC Title 865), the performance of survey computations, the plotting of the topography and the preparation of the Location Control Route Survey Plat.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have two (2) full time employees on staff, a surveyor and a reviewer, that meet all of the requirements below.

C. **Licensure:**

Surveyor: No professional license required. The field survey crew shall be under the direct supervision of a Professional Land Surveyor (PLS) registered in the State of Indiana.

Reviewer: Must hold an Indiana Land Surveyor's license. The survey must be reviewed by the reviewer. The reviewer is responsible for signing and sealing all appropriate survey documents.

- D. **Certification:** No certification required.
- E. **Education:** No specific education requirements.
- F. **Experience:**

Surveyor:

1. Experience and knowledge in field surveying on projects comprising a combined length of at least one mile. This includes but is not limited to research of deeds, maps, plats, road records, property owners and existing right of way plans of all appropriate agencies, INDOT plan standards, INDOT CADD standards and right of way legal descriptions.
2. The Surveyor must have had active involvement in field surveying within the past five (5) years.

Reviewer:

1. Must have two (2) years of experience in field surveys on projects. This includes but is not limited to research of deeds, maps, plats, road records and existing right of way plans of all appropriate agencies, as well as preparation of the topography, TIN and the models Location Control Route Survey Plat.
2. The Reviewer must have had active involvement in field surveying within the past five (5) years.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

7.0 - Geotechnical Engineering Services Category

7.1 - Geotechnical Engineering Services

General

This work type consists of providing geotechnical engineering, laboratory, and drilling and sampling services. All Geotechnical work shall be performed in accordance with the INDOT Geotechnical Manual, FHWA, AASHTO guidelines, generally accepted principles of sound engineering practice and all other pertinent state and federal regulations. For consideration as an approved laboratory the facility must demonstrate documented proficiency in all tests specified in the INDOT Geotechnical Manual. Requirements to be met for INDOT Office of Geotechnical Services approval can be found on the INDOT Office of Geotechnical Services website at <http://www.in.gov/indot/2804.htm>.

Requirements

- A. Prerequisite Work Type Approval:** No prior work type approval required.
- B. Qualifying Person(s):** The firm must have at least one (1) full time employee on staff that meets all of the requirements of each discipline (may be the same or different individuals for each discipline). A minimum of one (1) qualifying person and a maximum of three (3) will be allowed.
- C. Licensure:**
- 1. Engineering** - The qualifying person must be a professional engineer licensed in the State of Indiana.
 - 2. Laboratory** - The qualifying person must be a professional engineer licensed in the State of Indiana.
 - 3. Drilling** - The qualifying person must hold an Indiana Well Driller License.
- D. Certification:**
- 1. Engineering** - The qualifying person (or firm) shall be on the INDOT Office of Geotechnical Services Approved List.
 - 2. Laboratory** - The laboratory facility must have AASHTO Materials Reference Laboratory (AMRL) accreditation.
 - 3. Drilling** - The qualifying person (or firm) shall be approved by the INDOT Office of Geotechnical Services.
- E. Education:**
- 1. Engineering** - The qualifying person must have a bachelor's or a master's degree in Civil Engineering or Geotechnical Engineering.
 - 2. Laboratory** - The qualifying person must have a bachelor's or a master's degree in Civil Engineering or Geotechnical Engineering.

3. **Drilling** - The qualifying person must have a high school Diploma or equivalent.

F. Experience:

1. **Engineering –**

- a. The qualifying person must have a minimum of five (5) years or experience in geotechnical engineering with a bachelor’s degree in one of the fields listed in **E. Education** above or four (4) years of experience in geotechnical engineering with a master’s degree in one of the fields stated in **E. Education** above.
- b. The qualifying person must demonstrate experience in the following:
 - i. Deep foundations
 - ii. Shallow foundations
 - iii. Earthen structures and retaining walls
 - iv. Sampling and laboratory testing
 - v. Subsurface exploration

2. **Laboratory –** The qualifying person shall have a minimum of five (5) years of experience in soil and rock testing in accordance with AASHTO/ASTM.

3. **Drilling –**

- a. The qualifying person must have a minimum of three (3) years of experience in geotechnical drilling operations.
- b. The qualifying person must demonstrate experience in the following:
 - i. Geotechnical drilling operations
 - ii. Sampling
 - iii. Instrument installation
 - iv. Borehole logging

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, client, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. A Letter of Approval from INDOT Office of Geotechnical Services.
3. INDOT may require that the consultant provide additional supporting documents upon request.

8.0 - Roadway Design Category

Definition

INDOT classifies firms into two categories, Non-Complex Roadway Design and Complex Roadway Design. These two categories assist INDOT in the selection of firms for projects. A consultant's classification will be based on the experience of the designers and checkers employed by the firm or subcontracted to a firm.

The Indiana Department of Transportation requires that road design computations and road plans be prepared by an experienced road design engineer (the designer) and that all road computations are independently verified by an experienced engineer (the checker). The designer shall be responsible for preparing a design that follows sound engineering practice and conforms to AASHTO, INDOT and other specifications and manuals. The designer shall also be responsible for preparing an accurate and complete set of final road construction plans. The checker shall be responsible for ensuring correctness, constructability and completeness of the plans and calculations and adherence to pertinent specifications and manuals. The checker shall perform and prepare a set of separate, independent calculations verifying all stations, dimensions, elevations and estimated quantities.

The checker shall independently check all hand performed calculations to assure that the theory, design formulae and mathematics used by the designer are correct. The intent is not to produce two separate sets of design calculations. However, for atypical designs, and situations where the designer's theory is unclear or questionable, the checker shall perform and prepare a set of separate, independent calculations. The checker and designer shall resolve all discrepancies and the final product shall reflect mutual agreement that the design is correct. The checker shall verify all calculations performed by computer analysis by preparing independent input for comparison with the designer's input. The checker shall perform an independent analysis of the output and agree with the designer on the final design. Experience as a designer or checker requires actual hands on performance of the calculations and plan development.

The following features are encompassed in roadway design: horizontal and vertical alignments, super elevations, intersections, interchanges, pavements, culverts, storm and sanitary sewers, waterlines, erosion control, small retaining walls, traffic barriers, signing, pavement marking, and maintenance of traffic schemes and details, as well as any devices or structures that may be appurtenant to these features. Attendant to the design is the preparation of acceptable plans, reports, feasibility and justification studies, and the performance of all related calculations.

Acceptable plans are considered to be plans that are prepared in the format, and to the level of detail prescribed in the INDOT Design Manual.

8.1 - Non-complex Roadway Design

General

The following features are encompassed in roadway design: horizontal and vertical alignments, super-elevations, intersections, interchanges, pavements, culverts, storm and sanitary sewers, waterlines, erosion control, small retaining walls, traffic barriers, signing, pavement marking, and maintenance of traffic schemes and details, as well as any devices or structures that may be appurtenant to these features. The preparation of right-of-way plans and descriptions are considered to be a part of roadway design. Attendant to the design is the preparation of acceptable final plans, reports, feasibility and justification studies, and the performance of all related calculations.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a professional engineer licensed in the State of Indiana.
- D. **Certification:** No certification is required.
- E. **Education:** The qualifying person must have a BS or graduate degree in Civil Engineering.
- F. **Experience:** The qualifying person must list a minimum of three (3) projects demonstrating that they were responsible for the design features listed in “General” above. The qualifying person must also demonstrate experience in the following:
 - 1. Spot Improvements.
 - 2. Resurface projects.
- G. **Submittal Requirements**
 - 1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
 - 2. INDOT may require that the consultant provide additional supporting documents upon request.

8.2 - Complex Roadway Design

General

Complex Roadway Design is defined as projects involving: (1) a significant length of new highway through an urban area or difficult terrain, (2) intricate geometry (e.g., a freeway-to-freeway interchange), (3) the reconstruction or rehabilitation of a significant length of a multiple-lane highway, or (4) other types of projects with similar degrees of difficulty and required expertise, such as adding travel lanes. The following features are encompassed in roadway design: horizontal and vertical alignments, super-elevations, intersections, interchanges, pavements, culverts, storm and sanitary sewers, waterlines, erosion control, small retaining walls, traffic barriers, signing, pavement marking, and maintenance of traffic schemes and details, as well as any devices or structures that may be appurtenant to these features. The preparation of right-of-way plans and descriptions are considered to be a part of roadway design. Attendant to the design is the preparation of acceptable final plans, reports, feasibility and justification studies, and the performance of all related calculations.

Requirements

- A. **Prerequisite Work Type Approval:** Consultants requesting work type 8.2 – Complex Roadway Design must be approved for work type 8.1 - Non-complex Roadway Design.
- B. **Qualifying Person(s):** The firm must have two (2) full time employees on staff that meet all of the requirements listed below.
- C. **Licensure:** Both qualifying persons must be professional engineers licensed in the State of Indiana.
- D. **Certification:** No certification required.
- E. **Education:** Both qualifying persons must hold a BS or graduate degree in Civil Engineering.
- F. **Experience:** The qualifying persons must list a minimum of five (5) projects demonstrating that they were responsible for the design features and the types of roadways stated in “General” above. The projects should describe the qualifying person’s experience relating to as many of the design features listed in “General” above as possible.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

8.3 - Roundabout Design

General

Roundabout design includes both single lane, multi-lane, and complex roundabouts. Multi-lane roundabouts involve at least one leg requiring two or more entry lanes, bypass lanes. Complex roundabouts are in close proximity to another intersection such that the operation of one may have an impact on the operation, signing and/or marking of the other, high-speed roundabouts, and any roundabout interchange. The geometric designer must be proficient in the geometric design of roundabouts and have a thorough understanding of entry and exit path overlap, effects of bypass lanes on the roundabout and developing a roundabout design with appropriated values for geometric parameters (inscribed circle diameter, entry radius, exit radius, lane width, and circulatory roadway width). Design for appropriate fastest speed paths, design for truck turning paths, development of special signing and pavement marking needs are also included. Designers must have the skills and knowledge for the most complex roundabout designs. Roundabout design requires the experience of designing single lane roundabouts and a complex roundabouts to ensure a complete understanding of roundabout design.

Requirements

- A. **Prerequisite Work Type Approval:** Consultants requesting work type 8.3 – Roundabout Design must be approved for work type 8.2 – Complex Roadway Design.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** Qualifying person must be a professional engineer licensed in the State of Indiana.
- D. **Certification:** No certification required.
- E. **Education:** Qualifying person must hold a BS or graduate degree in Civil Engineering.
- F. **Experience:**
 - 1. Qualifying person must list two (2) projects where they were responsible for the design of single lane roundabouts and one (1) project where they were responsible for the design of a multilane or complex roundabout.
 - or
 - 2. Qualifying person must list two (2) projects where they were responsible for the design of multilane or complex roundabouts.

Note: Experience in single lane roundabout design only will not qualify for approval of this work type.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

9.0 - Bridge Design Category

Definition

INDOT uses two levels to classify firms for their range of bridge design experience and requires the submittal of Level 3 experience to assist INDOT in selection of firms for projects with bridges that exceed the Level 2 definition. A Consultant's classification level will be based on the experience of the designers and checkers employed by the firm.

The Indiana Department of Transportation requires that bridge design computations and bridge plans be prepared by an experienced bridge design engineer (the designer) and that all bridge computations are independently verified by an experienced engineer (the checker).

The designer shall be responsible for preparing a design that follows sound engineering practice and conforms to AASHTO, INDOT and other specifications and manuals. The designer shall also be responsible for preparing an accurate and complete set of final bridge construction plans. The checker shall be responsible for ensuring correctness, constructability and completeness of the plans and calculations and adherence to pertinent specifications and manuals. The checker shall perform and prepare a set of separate, independent calculations verifying all stations, dimensions, elevations and estimated quantities.

The checker shall independently check all hand performed structural calculations to assure that the structural theory, design formulae and mathematics used by the designer are correct. The intent is not to produce two separate sets of design calculations. However, for atypical designs, fracture critical components, and situations where the designer's theory is unclear or questionable, the checker shall perform and prepare a set of separate, independent calculations. The checker and designer shall resolve all discrepancies and the final product shall reflect mutual agreement that the design is correct.

The checker shall verify all structural calculations performed by computer analysis by preparing independent input for comparison with the designer's input. The checker shall perform an independent analysis of the output and agree with the designer on the final design. The designer and the checker must be full time employees of the firm.

Experience as a designer or checker requires actual hands on performance of the calculations and plan development.

9.1 - Level 1 Bridge Design

General

Consultants with this prequalification may perform design work on the following types of projects:

- Pre-cast three-sided culverts with a span greater than 20 feet.
- Single span reinforced concrete beam bridges.
- Single span Prestressed Concrete I-Beam or Box Beam
- Single span W-shape steel beam
- Continuous concrete slab bridges on integral end bents and pile capped interior substructures.
- Concrete bridge deck overlay projects.
- Minor rehabilitation work involving concrete patching, bridge deck joint rehabilitation, bridge rail replacement, bridge approach slab repairs or other structural repairs not requiring design computation.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have two (2) qualifying persons on full time staff who shall act as the designer and the checker that meet all of the requirements listed below.
- C. **Licensure:** Both qualifying persons must be Professional Engineers licensed in the State of Indiana.
- D. **Certification:** No certification required.
- E. **Education:** No specific education requirements.
- F. **Experience:** The designer and checker shall each have experience designing or checking at least two of the four following bridge types. Only experience in designing or checking new elements will be considered.
 - 1. Pre-cast three-sided culvert.
 - 2. Continuous concrete slab.
 - 3. Single-span prestressed concrete or steel beam.
 - 4. Any Level 2 structure.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

9.2 - Level 2 Bridge Design

General

Level 2 bridges consist of structure types requiring the most commonly used design procedures and methods and which have geometrics that are not complicated (tangent alignment with a constant bridge width). Consultants with this prequalification may perform work on the following types of projects:

- All of the work listed under Level 1
- Prestressed concrete box beam bridges
- Prestressed concrete bulb-tee bridges
- Multi-span prestressed concrete I-girder bridges
- Single and multi-span rolled steel beam bridges on tangent alignment with a consistent bridge width
- Single and multi-span constant depth welded steel plate girder bridges on tangent alignment with a constant bridge width
- Deck replacements, on tangent or curved alignment with straight stringers
- Structural repair of Level 1 or Level 2 bridges, including fatigue retrofits or Structural capacity upgrades

Note: Firms approved for work type 9.2 – Level 2 Bridge Design shall be permitted to design any type of substructure

Requirements

- A. **Prerequisite Work Type Approval:** A consultant requesting approval of work type 9.2 – Level 2 Bridge Design must be currently approved for work type 9.1 – Level 1 Bridge Design.
- B. **Qualifying Person(s):** The firm must have two (2) qualifying persons on full time staff who shall act as the designer and the checker that meet all of the requirements listed below.
- C. **Licensure:** Both qualifying persons must be Professional Engineers licensed in the State of Indiana.
- D. **Certification:** No certification required.
- E. **Education:** No specific education requirements.
- F. **Experience:** In addition to meeting the requirements for Level 1, both qualifying persons must have experience as a designer and/or a checker of the following Bridge Types, Substructure Types, and Foundations. Only experience in designing or checking new elements will be considered.

1. **Bridge Types:** Must have experience in at least two of the four bridge types listed below.
 - (a) Single or multi-span prestressed concrete box beam bridges.
 - (b) Single or multi-span prestressed concrete bulb-tee beams.
 - (c) Multi-span prestressed concrete I-girder bridges.
 - (d) Single or multi-span, constant depth welded steel plate girder **OR** single or multi-span composite rolled steel beam.

Note: Experience in plate girder design is assumed to provide enough experience to perform rolled beam design. However, experience in rolled beam design alone, without plate girder experience, is insufficient for qualification under Level 2.

2. **Substructure Types:** Must have experience in four of the six substructure types listed below.
 - (a) Frame bents.
 - (b) Wall type pier.
 - (c) Integral or non-integral end bents.
 - (d) Semi-Integral End Bents
 - (e) Wall type abutment or retaining wall greater than 20 feet in height.
 - (f) Tee type or hammerhead piers
3. **Foundation Types:** Must have experience in at least two of the three foundation types listed below.
 - (a) Pile foundation
 - (b) Drilled shaft foundation
 - (c) Spread footing

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

9.3 - Level 3 Design Elements

Definition

Level 3 Bridge Design is not a separate prequalification work type, but serves as a definition of services that exceed those of Level 2 Bridge Design. INDOT utilizes the Level 3 elements listed below as sub-factors in requests for Consultant services. The Level 3 elements associated with a specific project will be listed with the project notification and INDOT will consider the experience of the project team in designing those specific Level 3 elements. INDOT requires that Level 3 experience be included in résumés for use in evaluating the experience of project team members listed in letters of interest and technical proposals. Level 3 elements are as follows:

1. Experience in developing practical solutions to layout problems created by complex geometry or construction phasing.
2. Composite welded plate girder, rolled beam or box Girder Bridge on curved alignment with curved stringers requiring an analysis that takes into account the stresses developed in the curved longitudinal members due to non-uniform torsion (lateral flange bending). In all cases, design and analysis calculations are required to document the experience.
3. Fatigue and fracture control in steel bridges, including knowledge of the mechanisms that initiate cracks and cause them to propagate and associated repair methods is required. The intended experience is beyond that involved in performing standard fatigue analyses per AASHTO specifications. Acceptable experience includes any one of the following:
 - a. Design of a new fracture critical pier carrying girder.
 - b. Any work to repair existing cracks where analysis of the cause of the cracking and the method of repair was proposed by the Consultant and accepted by INDOT. Supporting documentation shall include design calculations and plan details.
 - c. Design of any new members involving complicated framing where fatigue prone connections were a concern. The Consultant shall explain the specific fatigue problems and show how they were resolved. Projects where the solution was given to the consultant by INDOT or another consultant are not acceptable.
4. Haunched girders
5. Steel box girder superstructures

- 6.** Piers over 45 feet tall
- 7.** Three-dimensional finite element analysis
- 8.** Post tensioning applied to an existing main load carrying bridge member
- 9.** Modular expansion joints
- 10.** Thru girder railroad bridges
- 11.** Superstructures utilizing post tensioned segmental construction
- 12.** Steel trusses
- 13.** Moveable bridges
- 14.** Arch bridges
- 15.** Other bridges such as cable stayed, suspension, etc.

10.0 - Traffic Design Category

Definition

These categories of prequalification are based upon knowledge and experience in the field of traffic design and management. Consultants must have demonstrated experience in design, specifications and standards. Acceptable plans are considered to be plans that are prepared in the format and to the level of detail prescribed in INDOT's Plan Development Manual and conforming to INDOT's Traffic Design Manual, Manual of Uniform Traffic Control Devices, INDOT's Standards & Specifications, and AASHTO's Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals Manual.

10.1 - Traffic Signal Design

General

Traffic signal design includes design of isolated actuated signals or a few signals requiring a time base form of coordination with some form of interconnecting cable. This level also includes the addition of signals into an existing coordination system. The design of an extension to an existing typical system would be included in this category.

Requirements

- A. **Prerequisite Work Type Approval:** No previous work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a professional engineer licensed in the State of Indiana.
- D. **Certification:** No certification required.
- E. **Education:** No specific education required.
- F. **Experience:**
 - 1. The qualifying person must have a minimum of three (3) years of experience in projects that meet the above definition.
 - 2. Experience listed must have been within the past two (2) years.
 - 3. The qualifying person should demonstrate experience in the following:
 - a. Capacity analysis of signalized intersections.

- b. Data collection, analysis and reports relating to the need for new signal warrant analysis and interconnection or coordination of signals.
- c. Traffic signal timing, i.e., vehicle timing, pedestrian timing, timing for pre-timed and actuated operation.
- d. Design of signal support structures, i.e., simple span, box span, cantilever arm.
- e. Knowledge of current INDOT accepted traffic signal timing and coordination software.
- f. Knowledge of traffic control design. The interrelationship of traffic signals with other traffic control devices, such as traffic signs, pavement markings and highway lighting.
- g. Utility clearance requirements, i.e., overhead and underground.
- h. Various phasing options, types of controllers, local detection alternatives, interconnection, signal displays and cabling.
- i. Railroad preemption devices.

G. Submittal Requirements

1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

10.2 - Traffic Signal System Design

General

Traffic signal system design includes a series or network of signals requiring a completely new or a major redesign of a coordinated system. This level would normally involve some form of information feedback to a central control point such as traffic engineering office (or closed loop system) by means of telephone, radio, fiber-optics, etc. This type of coordination system usually utilizes on-street data from detectors to establish what program of cycle length, offsets and splits will be employed. This system is dynamic by virtue of its capability to change or adjust coordination plans to better meet the demands of actual traffic. Sophisticated techniques of communications are sometimes necessary to accommodate not only traffic data, but other systems as well, such as video surveillance or dynamic message signs. The capability to analyze existing and projected traffic conditions and to compare, recommend and justify competing coordination systems and communications based upon the economic pay-back or cost-benefits is also required.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a professional engineer licensed in the State of Indiana.
- D. **Certification:** The qualifying person must be registered as a Professional Traffic Operations Engineer (PTOE).
- E. **Education:** No specific education required.
- F. **Experience:**
 - 1. The qualifying person must have minimum of three (3) years of experience in design of traffic signals, and had responsibility for the design for a minimum of three (3) projects that meet the definition of traffic signal system design.
 - 2. The qualifying person must have been actively involved in signal design within the past two (2) years.
 - 3. The qualifying person must list projects demonstrating experience in the following:
 - a. Real-time computer masters, arterial traffic adjusted, grid traffic adjusted, urban traffic control system (U.T.C.S.), off-line vs. on-line

timing plan generation, feedback to control center of malfunctions, distributed vs central processing, pre-processing, algorithms and software design.

- b.** Electronic data communications systems, i.e., multiplexing, multi-pair communication cables, coaxial cable, radio, and fiber optic cable.
- c.** Data collection, analysis and reports related to justification of need for computer based master control systems, economical analysis of competing systems (sample report or study may be required in response to this).

G. Submittal Requirements

- 1.** A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
- 2.** INDOT may require that the consultant provide additional supporting documents upon request.

10.3 - Complex Roadway Sign Design

General

Complex Roadway Sign Design involves projects involving a significant length of new highway through an urban area or difficult terrain, intricate roadway geometry (e.g. freeway interchange), the reconstruction or rehabilitation of a significant length of a multiple-lane highway, or other types of projects with similar degrees of difficulty and required expertise in sign design.

Requirements

- A. Prerequisite Work Type Approval:** No prior work type approval is required.
- B. Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. Licensure:** The qualifying person must be a professional engineer licensed in the State of Indiana.
- D. Certification:** No certification required.
- E. Education:** No specific education required.
- F. Experience:**
 - 1.** The qualifying person must have a minimum of five (5) years of experience in projects that meet the above definition.
 - 2.** The qualifying person must have been actively involved in sign design within the past three (3) years.
 - 3.** The qualifying person must list projects demonstrating experience in the following:
 - a.** Existing sign inventory collection and analysis for proposed sign need.
 - b.** Knowledge of INDOT approved sign sizing software.
 - c.** Design of sign support structures and foundation, i.e., single and double arm cantilevers, box-truss, monotube, tri-chord.
 - d.** Knowledge of support hardware, walkway and lumi-trak.
 - e.** Knowledge of breakaway sign support design.
 - f.** For complex roadway geometry, knowledge of proposed sign based on proposed geometry.
 - g.** Knowledge of traffic control design (interrelationship of traffic signs with other traffic control devices, such as traffic signals, pavement markings, highway lighting and ITS) utility clearance requirements, i.e. overhead and underground.

- h.** Knowledge of clear zone and roadside barriers.

G. Submittal Requirements

- 1.** A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
- 2.** INDOT may require that the consultant provide additional supporting documents upon request.

10.4 - Lighting Design

General

Lighting Design involves projects requiring highway lighting systems such as isolated intersections, interchange lighting or continuous highway lighting, including all associated electrical design and components. Prepares plans for construction of such systems.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** No professional license required.
- D. **Certification:** No certification required.
- E. **Education:** No specific education required.
- F. **Experience:**
 - 1. The qualifying person must have extensive experience in design and plan preparation for highway lighting projects that meet the above definition.
 - 2. The qualifying person must list projects demonstrating experience in the following:
 - a. Plan preparation
 - b. Traffic data collection and warrant analysis
 - c. AASHTO Guide for Roadway Lighting, ANSIIES Standard Practice for Roadway Lighting, INDOT Traffic Engineering Manual, INDOT standards & specifications, or similar documents utilized by other state transportation agencies
 - d. Experience in lighting design using conventional, median mounted and/or tower lighting for partial, intermediate, full interchange and/or continuous highway lighting
 - e. Familiarity with system interrelationships of light source size, luminaire photometric, mounting height and illumination level and uniformity as related to visibility, safety, energy consumption, economics, traffic control devices and roadway geometry
 - f. Knowledge of support hardware including poles, bracket arms, towers, lowering devices and foundations
 - g. Familiarity with electrical codes including national electrical code, national electrical safety code and utility clearance requirements

- h. Knowledge of electrical materials, maintenance and construction practices
- i. Experience in circuit design including conductor sizing for loading and voltage drop, control equipment, system grounding and fuse protection
- j. Knowledge of lighting design software

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

10.5 - Intelligent Transportation System Design

General

Intelligent Transportation Systems (ITS) encompass a broad range of wireless and wire line communications-based information and electronics technologies. When integrated into the transportation system's infrastructure, and in vehicles themselves, these technologies relieve congestion, improve safety and enhance American productivity. ITS are made up of 16 types of technology based systems. These systems are divided into intelligent infrastructure systems and intelligent vehicle systems. These systems are:

Intelligent Infrastructure

1. Arterial Management
2. Freeway Management
3. Transit Management
4. Incident Management
5. Emergency Management
6. Electronic Payment
7. Traveler Information
8. Information Management
9. Crash Prevention and Safety
10. Roadway Operations and Maintenance
11. Road Weather Management
12. Commercial Vehicle Operations

Intelligent Vehicles

1. Intermodal Freight
2. Collision Avoidance Systems
3. Driver Assistance Systems

Firms desiring to provide ITS Design services to INDOT shall have a documented record of successfully designing and implementing ATMS/ATIS, the minimum professional staff as described elsewhere in this section, and meet the following System Design requirements. The Consultant will have experience in planning and design services for all aspects of ATMS design. The activities relating to the design should include the preparation of: plans, special provisions, engineering estimates, reports, public relations and public information documents, concept of operations, operations and maintenance plans, training and training documents, ITS National Architecture analysis and reports, preliminary engineering reports, system design documents, technology evaluation reports, and integration and test plans as required. The Consultant will have experience in assessing the transportation requirements, initiatives and problem areas of a region and be able to formulate a comprehensive strategy for deploying ITS system and services to meet the region's needs. The Consultant will have a successful record of ITS system design while taking into account existing systems, services and support facilities, ITS standards, the National ITS Architecture, and state standards and guidelines. The Consultant will be familiar with INDOT standards and guidelines, especially those pertaining to safety and clear-zone requirements relating to ITS deployments as all

plans, special provisions, and engineering estimates are to be developed in accordance with current INDOT standards and guidelines.

Requirements

- A. Prerequisite Work Type Approval:** No prior work type approval required.
- B. Qualifying Person(s):** The firm must have two (2) full time employees on staff that meet all of the requirements listed below.
- C. Licensure:** Both qualifying persons must be a professional engineers licensed in the State of Indiana.
- D. Certification:** Both qualifying persons must have completed no less than 16 hours of Professional Development (formal training by outside parties) relevant to the field of Intelligent Transportation Systems over the past two (2) years.
- E. Education:** One qualifying person must have a Bachelor of Science **or** graduate degree in Civil Engineering, Transportation Engineering, or a closely related discipline. The other qualifying person must have Bachelor of Science degree in Electrical Engineering, or a closely related discipline.
- F. Experience:**
 - 1.** Both qualifying persons must at have least five (5) years of experience with ITS design projects.
 - 2.** Both qualifying persons must have been actively involved in ITS Design within the past three (3) years.
 - 3.** Both qualifying persons must have direct project level responsibilities on not less than three (3) ITS projects.
 - 4.** Both qualifying person must demonstrate experience in at least four (4) of the following areas:
 - a.** Advanced Traffic Management System (ATMS) Design
 - b.** NTCIP Communications
 - c.** CCTV System Design
 - d.** Fiber Optic Network System Design
 - e.** Wireless Communications (Low Speed/High Speed)
 - f.** Vehicle Detection Technology
 - g.** Travel Time Prediction

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. Copies of the Certificate(s) of Completion, or other documentation from the third party provider, documenting the completion of the required Professional Development hours.
3. INDOT may require that the consultant provide additional supporting documents upon request.

10.6 - Intelligent Transportation System Integration

General

Intelligent Transportation Systems (ITS) encompass a broad range of wireless and wire line communications-based information and electronics technologies. When integrated into the transportation system's infrastructure, and in vehicles themselves, these technologies relieve congestion, improve safety and enhance American productivity. ITS are made up of 16 types of technology based systems. These systems are divided into intelligent infrastructure systems and intelligent vehicle systems. These systems are:

Intelligent Infrastructure

1. Arterial Management
2. Freeway Management
3. Transit Management
4. Incident Management
5. Emergency Management
6. Electronic Payment
7. Traveler Information
8. Information Management
9. Crash Prevention and Safety
10. Roadway Operations and Maintenance
11. Road Weather Management
12. Commercial Vehicle Operations

Intelligent Vehicles

1. Intermodal Freight
2. Collision Avoidance Systems
3. Collision Notification Systems
4. Driver Assistance Systems

Firms desiring to provide ITS System Integration services to INDOT shall have a documented record of successfully integrating ATMS/ATIS elements, the minimum professional staff as described elsewhere in this section, and meet the following System Integration requirements.

System Integration Consultants will have experience and knowledge of engineering services necessary to integrate all of the various components, component systems, subsystems, and services related to ITS systems. Such systems include but are not limited to vehicle detection technology, Closed Circuit Television Monitoring Systems, Fiber-Optic Networking, and Wireless Networking, including Microwave Systems, licensed and unlicensed radio communications, NTCIP protocol, TCP/IP protocol and Linux and other Operating Systems. Such experience will include the ability to develop interface control documents to assure the effective operation and interchange of information among the various elements of the ITS systems, services and users. The Consultant will be able to perform an analysis of system requirements and functional capabilities and to develop test plans to assure that developed ITS systems, services and support facilities adhere to the standards, specifications and plans

as approved by INDOT for the specific project. The Consultant may be asked to provide recommendations for changes or enhancements to existing or developing systems for INDOT to consider.

The Consultant will have experience in the formulation of testing requirements, standards and procedures to document system performance and operation. The Consultant will be capable of developing a comprehensive battery of tests to document system operational compliance with performance criteria as approved by INDOT. Consultant will be capable of the production and delivery of Interface Control and System Performance Documentation.

Requirements

- A. Prerequisite Work Type Approval:** No prior work type approval required.
- B. Qualifying Person(s):** The firm must have two (2) full time employees on staff that meet all of the requirements listed below.
- C. Licensure:** At least one (1) of the qualifying persons must be a professional engineer licensed in the State of Indiana.
- D. Certification:** Both qualifying persons must have completed no less than 16 hours of Professional Development (formal training by outside parties) relevant to the field of Computer Science over the past two (2) years.
- E. Education:** Both qualifying persons must hold a Bachelor of Science or graduate degree in Electrical Engineering, Electrical and Computer Engineering, Computer Science or a closely related discipline.
- F. Experience:**
 - 1.** Both qualifying persons must have at least five (5) years of experience with ITS system integration projects.
 - 2.** Both qualifying persons must have been actively involved in ITS Integration within the past three (3) years.
 - 3.** Both qualifying persons must have a thorough understanding of the ITS National Architecture.
 - 4.** Both qualifying persons must demonstrate experience of direct project level responsibilities on not less than three (3) ITS projects.
 - 5.** Both qualifying persons must demonstrate experience in at least four (4) of the following areas:
 - a.** Advanced Traffic Management System (ATMS) Integration
 - b.** NTCIP Communications

- c. CCTV System Design
- d. Fiber Optic Network System Design
- e. Backbone Communications Systems
- f. Wireless Communications (Low Speed/High Speed)
- g. Vehicle Detection Technology
- h. Travel Time Prediction

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. Copies of the Certificate(s) of Completion, or other documentation from the third party provider, documenting the completion of the required Professional Development hours.
3. INDOT may require that the consultant provide additional supporting documents upon request.

11.0 - Right of Way Plan Development Category

Definition

Right of Way Plan Development based on INDOT standards includes courthouse research and additional field survey (defined in IAC Title 865 1) as approved by INDOT to identify all ownership and interest rights in a property, and the preparation of right of way plans, computations and legal descriptions that include closure checks and right of way parcel plats. These projects could include the acquisition of both non-complex and complex takes including fee takings, perpetual easements, channel easements, temporary takes, etc.

11.1 - Right of Way Plan Development

General

While right of way plans are a definite, integral part of the roadway construction plans, they are developed as a separate entity and thus require a significant amount of specialized knowledge in both fields of boundary surveying and right of way plan development. A right of way plan provides information that defines the extent of the right of way required in order to construct and maintain a highway. Right of way plans show the information needed to facilitate an accurate appraisal of the proposed taking and serve to expedite the required negotiations leading to the acquisition thereof. In addition, right of way plans serve as official public records documenting that which has been acquired and monumented.

INDOT distinguishes two distinct areas of responsibility when preparing right of way plans and legal descriptions, namely the design function and the review function. A consulting firm's prequalification status will be based on the training and experience of the individual right of way plan Consultant and the design plan right of way designer and the right of way plan reviewer Consultant.

The right of way plan designer and reviewer shall conform to the following specifications:

1. INDOT's Real Estate Policies and Procedures Manual
2. INDOT's Location and Design Manual
3. INDOT's Location and Design Sample Plan Sheets
4. INDOT's Survey Manual
5. INDOT's Standard Construction Drawings
6. Title 865 of the Indiana Administrative Code (I.A.C.)
7. The 1998 R/W Engineering Manual
8. County Conveyance Standards
9. Project specific Scope of Services requirements
10. Other specifications and manuals as applicable

The right of way plan Consultant shall be responsible for staking all right of way, temporary right of way and easements to be acquired by INDOT when requested by INDOT. The right of way Consultant is also responsible for preparing the project private sign inventory and the location of any new topographical features not shown on the right of way design plans when the right of way staking is complete. All INDOT right of way staking forms will be completed and submitted to INDOT.

Experience as a right of way plan designer or reviewer requires actual hands on performance of right of way plan development and right of way plan reviews. Work in the general oversight of a project or in a strictly managerial capacity does not qualify for right of way plan designer or right of way plan reviewer experience. The right of way designer and the right of way plan reviewer cannot be the same individual.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have two (2) full time employees on staff that meet all of the requirements below:
 - 1. A right of way **plan designer** shall be under the direct supervision of a Professional Land Surveyor (PLS) registered in the State of Indiana.
 - 2. The right of way **plan reviewer** MUST be a PLS registered in the State of Indiana and shall be responsible for signing and sealing all appropriate right of way documents.
- C. **Licensure:** The **plan reviewer** must hold an Indiana Professional Land Surveyor license.
- D. **Certification:** No certification required.
- E. **Education:** No specific education required.
- F. **Experience:**
 - 1. The right of way plan **designer** shall meet the following requirements:
 - a. Experience and knowledge in right of way plan development on projects comprising a total of ten (10) or more parcels. This includes but is not limited to research of deeds, maps, plats, road records and existing right of way plans of all appropriate agencies, as well as proposed right of way plan design, right of way computation, INDOT right of way plan standards, INDOT CADD standards, right of way legal description writing and closure checks.

12.0 - Right of Way Acquisition Services Category

12.1 - Project Management for Right of Way Acquisition Services

General

This is the process of monitoring all aspects of the acquisition process to ensure compliance with all federal and state regulations. Knowledge of and ability to effectively coordinate all phases and disciplines of the right of way acquisition process is required.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** No professional license required.
- D. **Certification:** No certification required.
- E. **Education:** No specific education required.
- F. **Experience:**
 - 1. A minimum of two (2) years of experience working in a supervisory capacity on projects utilizing 23 and 49 CFR and the Uniform Act is required.
 - 2. The qualifying person must have a thorough working knowledge of 23 and 49 CFR, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and its amendments (the Uniform Act), and the INDOT's Policy and Procedures Right of Way Manuals dealing with all disciplines of right of way acquisition.
 - 3. The qualifying person must clearly demonstrate past experience in managing complex projects that involve multiple complicated tasks and must show experience as a supervisor and/or manager of a job involving workload identification, assignment of tasks, scheduling performance and monitoring progress of multiple and/or complex real estate parcels. Ability to read, interpret and explain complex highway right of way and construction plans is mandatory.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. Work history and number of years of experience in project management.
3. A list of highway projects on which the applicant has performed project management where the Surface Transportation Act and the Uniform Act were applied.
4. A list of INDOT right of way training courses successfully completed (including location and year), or their equivalent.
5. A list of real estate courses successfully completed (including location and year).
6. INDOT may require that the consultant provide additional supporting documents upon request.

12.2 - Title Research

General

Title research is the process of adequately researching all available records and preparing a Title and Encumbrance Report documenting the research to identify all parties or entities having any ownership interest in the property to be acquired, including an abstract of all pertinent data, legal descriptions, all liens (taxes, mortgages, recorded judgments, etc.), assessments, taxes and any encumbrances against the property.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** No professional license required.
- D. **Certification:** No certification required.
- E. **Education:** No specific education required.
- F. **Experience:**
 - 1. A title abstractor shall have at least one (1) year of prior experience in the research of titles and must be familiar with INDOT's procedures for title and encumbrance reports.
 - 2. The applicant must have experience in public records research and a good working knowledge of the various indices related to records research to document root title in the title report. A title abstractor must be able to understand construction and right of way plans in order to prepare the title and encumbrance reports, since the report reflects the same ownerships and information identified within the plans.

G. Submittal Requirements

- 1.** A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.

- 2.** A complete Fee Abstractor Application that at a minimum shall include:
 - a.** Prior title research experience that demonstrates compliance with the one (1) year title experience requirement.

 - b.** Examples of recent title work containing a minimum twenty (20) year search period.

Note: First time applicants for this work type may be asked to prepare a title report that demonstrates compliance to INDOT’s procedures for title reports. The applicant will be given a demonstration title and encumbrance report packet and then will proceed to the appropriate courthouse to do the necessary research to prepare the Title and Encumbrance Report and submit the complete report back to the Abstracting Supervisor. The Title and Encumbrance Report prepared by the title abstractor will be reviewed and rated for compliance to INDOT policies and procedures and the abstractor will be notified of the results.

12.3 - Value Analysis

General

The term waiver valuation means the valuation process used and the product produced when the Agency determines that an appraisal is not required, pursuant to 24.102(c) (2) appraisal waiver.

The waiver valuation analysis process is not an appraisal, but a valuation format used by INDOT to establish a Fair Market Value Estimate (FMVE) when an appraisal is unnecessary because the valuation process is uncomplicated and the fair market value is estimated at \$10,000 or less, based on a review of available data.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** No professional license required.
- D. **Certification:** No certification required.
- E. **Education:** No specific education required.
- F. **Experience:**
 - 1. The qualifying person must be knowledgeable of basic appraisal procedure. These individuals must understand INDOT policy and procedures regarding the preparation of the waiver valuation format.
 - 2. The qualifying person must be able to document satisfactory completion of INDOT's class, Valuation of Simplistic Acquisition, and/or that they have prepared or assisted others in the preparation of waiver valuations that have been approved by INDOT reviewers.
 - 3. The qualifying person performing the waiver valuation for INDOT must have the ability to read and understand complex right of way and construction plans.
 - 4. INDOT may also give consideration to individuals who have prepared similar formats in other states so long as documentation and references are provided which prove the individual's ability to comply with the conditions for the waiver valuation.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

12.4 - Appraisal

General

The term appraisal means a written statement independently and impartially prepared by a qualified appraiser setting forth an opinion of defined value of an adequately described property as of a specific date, supported by the presentation and analysis of relevant market information.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a certified general appraiser licensed in the State of Indiana.
- D. **Certification:** The qualifying person must be on the INDOT Office of Real Estate's list of approved appraisers.
- E. **Education:** No specific education required.
- F. **Experience:**
 - 1. The qualifying person must be familiar with the Department of Transportation, FHWA's Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally-Assisted Programs Final Rule; 49 CFR Part 24.102 and 24.103; the Uniform Standards for Professional Appraisal Practice (USPAP); and the INDOT Appraisal Manual.
 - 2. The qualifying person must have the ability to read and understand complex right of way and construction plans.
 - 3. The qualifying person must demonstrate appraisal related experience with emphasis on work related to the eminent domain process. Specify number of years of appraisal experience.
 - 4. The qualifying person should have experience in providing expert appraisal testimony in eminent domain cases.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. A list of INDOT right of way and appraisal courses completed (including year and location).
3. INDOT may require that the consultant provide additional supporting documents upon request.
4. A list of affiliations with professional organizations.

12.5 - Appraisal Review

General

Review appraisers examine reports of other appraisers to determine if the conclusions presented are consistent with the data reported and are reasonable and compliant with all federal and federally assisted programs rules and regulations, Indiana state laws and the INDOT Appraisal Manual, given the specific facts and data available. The review appraiser is responsible for seeking clarification and/or correction to reports when necessary. The review appraiser will recommend to INDOT if the appraisal under review is believed to be just compensation. A person performing appraisal reviews for INDOT must have the ability to read and understand complex right of way and construction plans.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a Certified General Appraiser licensed by the State of Indiana.
- D. **Certification:** The qualifying person must be on the INDOT Office of Real Estate's list of approved appraisers and show as approved for appraisal review.
- E. **Education:** No specific education required.
- F. **Experience:**
 - 1. The qualifying person must have five (5) years of experience with eminent domain appraisal methodology.
 - 2. The qualifying person must have an expert understanding of the Department of Transportation, FHWA's Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally-Assisted Programs Final Rule; 49 CFR Part 24.102 and 24.103; the Uniform Standards for Professional Appraisal Practice (USPAP); the INDOT Appraisal Manual and the interrelationship of appraisal / appraisal review to the overall acquisition process.
 - 3. The qualifying person should have experience in providing expert appraisal testimony in eminent domain cases.
 - 4. The qualifying person must demonstrate appraisal related experience with emphasis on work related to the eminent domain process. Specify number of years of appraisal experience.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. A list of INDOT right of way and appraisal courses completed (including year and location).
3. INDOT may require that the consultant provide additional supporting documents upon request.
4. A list of affiliations with professional organizations.

12.6 - Negotiation

General

Negotiation is the process of acquiring property rights from owners for the expansion and rehabilitation of the state's highway system. This process of acquisition includes effectively communicating and offering to the owner, in writing, fair and reasonable compensation in compliance with the Uniform Act, Indiana law and INDOT procedures.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must have **either** an active Indiana Real Estate Brokers license; or have an active Indiana Real Estate Salespersons license **with** the State Right-of-Way Association (SR/WA) designation of the International R/W Association.
- D. **Certification:** The qualifying person must pass the INDOT Approved Buyers Exam and be on the INDOT list of approved buyers.
- E. **Education:** No specific education required.
- F. **Experience:**
 - 1. The qualifying person must demonstrate familiarity with Indiana Code 32-24-1, INDOT's acquisition policies and procedures, highway construction and right of way plans, titles and appraisals.
 - 2. The qualifying person must be able to explain the project, the taking, the impact of the taking to the residue, the acquisition process, the offer, and negotiate in an honest and competent manner with the property owner(s).
 - 3. The qualifying person must document all contacts with the owner and treat all property owners fairly with respect and dignity.

G. Submittal Requirements

- 1.** A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
- 2.** A list of training courses, to include acquisition courses and other real estate courses. Include locations and year(s) of attendance for all listed training.
- 3.** INDOT may require that the consultant provide additional supporting documents upon request.

12.7 - Closing

General

The act or process of the transfer of property through execution of documentation and distribution of compensation.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** No professional license required.
- D. **Certification:** No certification required.
- E. **Education:** No specific education required.
- F. **Experience:** The qualifying person must be familiar with all INDOT forms and procedures regarding right of way methodology and specify the number of years of experience.
- G. **Submittal Requirements**
 - 1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
 - 2. A list of closing training courses successfully completed (including location and year).
 - 3. INDOT may require that the consultant provide additional supporting documents upon request.

12.8 - Relocation

General

This work type is the provision of relocation assistance to eligible persons or businesses that are displaced by highway improvement projects.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval is required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** No professional license is required.
- D. **Certification:** The qualifying person must complete the INDOT Central Office Relocation exam with a minimum score of 70%.
- E. **Education:** No specific education is required.
- F. **Experience:**
 - 1. The qualifying person must have the ability to interpret and explain the Relocation Assistance Program along with thorough knowledge of 49 CFR, Part 24 is required.
 - 2. Relocation experience on highway projects is preferred.
 - 3. The qualifying person must demonstrate the ability to read, interpret and explain complex highway right of way and construction plans is necessary.
 - 4. The qualifying person must specify the number of years of experience in the field of relocation.
 - 5. The qualifying person must provide a list of projects on which the individual has performed relocation services where 49 CFR, Part 24 applies. Experience on residential and commercial relocation parcels should be specifically identified.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.
3. A list of real estate courses successfully completed (including location and year).

13.0 - Construction Inspection Category

13.1 - Construction Inspection

General

Construction inspection serves to obtain assurance that the project has been completed in reasonably close conformity with plans and specifications including authorized changes and provides a basis for acceptance of the project and reimbursement of project costs with Federal-aid funds. This entails record keeping requirements for inspections that are being made as per Federal regulations, CFR Titles 23 and 49, Indiana code, Title 8 Article 23, and INDOT business rules. Closeout of the construction contract addresses items that cannot be completed until the contract is physically complete. During the closeout period final pay and material quantities are determined, certified, and agreed upon by the contractor and state transportation agency; and final reporting requirements are fulfilled; and assurance is made that items such as DBE/MBE/WBE requirements as applicable have been fulfilled; and issuance of final payment is made.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have two (2) full time employees on staff that meet requirements listed below.
 - 1. **Construction Technician** - A person that provides technical expertise to inspect and perform material sampling and testing on construction projects.
 - 2. **Construction Supervisor** - Supervisory personnel and other support staff as necessary and mutually agreed upon to administer or inspect construction projects; and to close out the construction contract.

Note: Both the technician and the supervisor must meet one (1) of the following conditions to be reviewed for work type approval.

- C. **Licensure:** The qualifying person(s) must be a professional engineer licensed in the State of Indiana.

or

- D. **Certification:** The qualifying person(s) must have passed all 6 parts of the INDOT Certified Technician Program exams.

or

- E. **Education:** The qualifying person(s) must hold a BS or graduate degree in Civil Engineering from an accredited university.

F. Experience:

1. **Technician** – Must have a minimum of one (1) year of experience inspecting and performing material sampling and testing on road, bridge, and/or signalization construction projects.
2. **Supervisor** – Must have a minimum of three (3) years of experience supervising the administration of and performing or supervising material sampling and testing of road, bridge, and/or signalization construction projects. The supervisor must have basic computer skills and proficiency with INDOT's Construction Records Application or SiteManager construction management software.

Note: Consultants providing Construction services shall provide adequate numbers of appropriate staff as determined by INDOT during the period contract procurement and negotiations.

Unless otherwise agreed to by INDOT, the Consultant shall Furnish all construction field testing equipment, including nuclear gauges, necessary to sample and test materials in accordance with INDOT procedures as specified in the "General Instructions to Field Employees" (including revisions thereto), construction memorandums as published by INDOT, the "Manual for Frequency of Sampling and Testing," and in accordance with current accepted practices. INDOT at its own discretion may provide testing equipment for use by the Consultant.

Consultant personnel shall obtain all job samples of materials (as required by the "General Instructions to Field Employees") delivered to the site and deliver such samples to the appropriate INDOT laboratory office.

G. Submittal Requirements

1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

14.0 - Bridge Inspection Category

14.1 - Regular Bridge Inspection

General

A regular bridge inspection is the inspection of any bridge that does not meet the definition of a Complex Bridge (as defined in Section 14.2.) or a Small Structure (as defined in Section 14.4). A bridge inspection can include routine, fracture critical, special detail, damage, clearance measurement, scour, seismic and miscellaneous inspections, or any combination of these.

For further details, please reference the INDOT Bridge Inspection Manual found at http://www.in.gov/dot/div/contracts/standards/bridge/inspector_manual/index.htm.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements below.
- C. **Licensure:** The qualifying person must be a Professional Engineer licensed in the State of Indiana.
- D. **Certification:**
 - 1. The qualifying person must be a NBIS qualified bridge inspection Team Leader.
 - 2. The qualifying person must be on the INDOT list of approved bridge inspectors as a team leader.
 - 3. The qualifying person must have attended and completed the NHI - 80 hour Safety Inspection of In-Service Bridges course at least once in the past ten (10) years.

Note: Team Member/Leader request forms are available from the INDOT Bridge Inspection Engineer/State Bridge Program Manager. Contact information may be found at:

<http://www.in.gov/dot/div/contracts/standards/bridge/bridgeinspect.htm>.

- E. **Education:** No specific education requirements.

F. Experience:

1. The qualifying person must have a minimum of three (3) years of experience in the field of bridge inspections. Experience in this field must have been within three (3) years of the filing date of the Initial, Modification, or Renewal prequalification application.
2. The qualifying person must provide a list of a minimum of three (3) projects demonstrating their involvement in a responsible capacity for bridge-related inspection, design, data integrity, and report preparation in the last three (3) years.

G. Submittal Requirements

1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

14.2 - Complex Bridge Inspection

General

A complex bridge is defined in the Federal Bridge Inspection Regulations as a suspension bridge, movable bridge, cable stayed bridge or a bridge with unusual characteristics as identified by a State's Bridge Inspection Program Manager.

A complex bridge is a bridge that because of its size or complexity would require a significantly greater inspection effort than could be accomplished on a normal routine, fracture critical or special detail inspections. These inspections require greater engineering knowledge and/or expertise to accurately and fully determine the condition of the various bridge elements.

A complex bridge inspection may include all or part of the types of inspections covered by a regular inspection (based on the inspection plan of action for the bridge), in addition to its complex part. For INDOT bridges, routine inspections will still be conducted by INDOT inspectors in addition to any complex type inspection that may be conducted by others.

For further details please reference the INDOT Bridge Inspection Manual found at:
http://www.in.gov/dot/div/contracts/standards/bridge/inspector_manual/index.htm .

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a Professional Engineer licensed in the State of Indiana.
- D. **Certification:**
 - 1. The qualifying person must be a NBIS qualified bridge inspection Team Leader.
 - 2. The qualifying person must be on the INDOT list of approved bridge inspectors as a team leader approved for complex structures.
 - 3. The qualifying person must have attended and completed the NHI - 80 hour Safety Inspection of In-Service Bridges course at least once in the last ten (10) years.
 - 4. The qualifying person must have completed the 3.5 day NHI course Fracture Critical Inspection Techniques for Steel Bridges, within the last five (5) years.

Note: Team Member/Leader request forms are available from the INDOT Bridge Inspection Engineer/State Bridge Program Manager. Contact information may be found at:

<http://www.in.gov/dot/div/contracts/standards/bridge/bridgeinspect.htm>.

- E. Education:** No specific education requirements.
- F. Experience:** The qualifying person must have a minimum of three (3) years of experience in the field of bridge inspections. Experience in this field must have been within three (3) years of the filing date of the prequalification application being reviewed. The qualifying person must provide a list of a minimum of three (3) projects demonstrating their involvement in a responsible capacity for bridge-related inspection, design, data integrity, and report preparation in the last three (3) years.
- G. Submittal Requirements**
 - 1.** A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
 - 2.** INDOT may require that the consultant provide additional supporting documents upon request.

14.3 - Underwater/In-water Bridge Inspections

General

INDOT requires that condition inspections be conducted on submerged elements of bridges, or their in-water collision protection devices, in accordance with the National Bridge Inspection Standards (NBIS), the Underwater Bridge Inspection Manual by the FHWA and INDOT requirements, including bridge elements where:

1. The water depth around the bridge element is normally 3 feet deep or more throughout the entire year.
2. The water is polluted with effluents which can cause accelerated deterioration of steel or concrete, or can be harmful to an inspector not properly protected.
3. The current of the waterway is too fast for inspectors to safely enter into the water on routine inspections to assess the condition of the elements underwater.
4. The channel bottom condition is such that an inspector on routine inspections would sink a foot or more into the bottom material and cause an unsafe working condition.

Inspections shall be a Level-1 Inspection unless findings require that a higher level of inspection is required to accurately assess a bridge elements condition.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have on full time staff three persons that meet all of the requirements listed below.
- C. **Licensure:** The team leader must be a Professional Engineer licensed in the State of Indiana. Other team members are not required to hold an Indiana PE license.
- D. **Certification:**
 1. All three team members must have successfully completed the NHI class #130091 – Underwater Inspection.
 2. All three team members must be certified divers that have successfully completed a course that meets the standards listed by the International Organization of Standards, ISO 24801-2, for Autonomous Divers.
 3. All three team members must be on the INDOT list of approved inspectors. In addition to being an Indiana licensed PE, the team leader and must be on the INDOT list of approved inspectors as a NBIS qualified bridge inspection Team Leader. The remaining two team members must be on the INDOT list of

approved inspectors as either NBIS qualified team leaders or team members.

4. All three team members must be on the INDOT list of approved inspectors as approved for underwater inspections.

Note: Team Member/Leader request forms are available from the INDOT Bridge Inspection Engineer/State Bridge Program Manager. Contact information may be found at:

<http://www.in.gov/dot/div/contracts/standards/bridge/bridgeinspect.htm>.

E. **Education:** No specific education requirements.

F. **Experience:**

1. The **team leader** must demonstrate experience in the following areas:
 - a. Experience in underwater and in-water bridge inspections.
 - b. Experience in stream bed profiles and cross-sections.
 - c. Experience in underwater non-destructive testing techniques.
 - d. Must have had responsibility for the inspection, data integrity and report preparation for at least two (2) separate bridge inspection projects in the last three (3) years.
 - e. Must provide a list of their last five (5) dives. Dives must have occurred within the five (5) years prior to the date of the prequalification application submittal date.
 - f. Must have performed a minimum of three (3) bridge inspections within the three (3) years prior to the date of the prequalification application submittal date.
2. The **team members** must demonstrate experience in the following areas:
 - a. Experience with various underwater non-destructive testing techniques.
 - b. Must provide a list of their last five (5) dives. Dives must have occurred within the five (5) years prior to the date of the prequalification application submittal date.
 - c. Must have performed a minimum of three (3) bridge inspections within the three (3) years prior to the date of the prequalification application submittal date.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. Copies of all qualifying persons’ diver certification cards must be uploaded as an attachment with the prequalification application.
3. INDOT may require that the consultant provide additional supporting documents upon request.

14.4 - Small Structure and Miscellaneous Structure Inspections

General

A small structure is any structure that ranges in length (clear span - parallel to the centerline of a roadway) from 4.0 feet to 20.0 feet long. If the length is greater than 20.0 feet, the structure is considered a bridge. Miscellaneous structures shall be left undefined at this time. For further details, please reference the INDOT Bridge Inspection Manual found at:

http://www.in.gov/dot/div/contracts/standards/bridge/inspector_manual/index.htm.

Requirements

- A. Prerequisite Work Type Approval:** No prior work type approval required.
- B. Qualifying Person(s):** The firm must have on full time staff an inspection team of at least two (2) people, one (1) of which is a NBIS qualified bridge inspection Team Leader. The other must be a NBIS qualified bridge inspection Team Leader or a NBIS qualified bridge inspection Team Member.

Note: The Team Leader must be on site and actively participating in all inspection activities.

- C. Licensure:** The Team Leader must be a Professional Engineer licensed in the State of Indiana. The other team member is not required to hold an Indiana PE license.

D. Certification:

1. The Team Leader must have completed the NHI - 80 hour Safety Inspection of In-Service Bridges course at least once in the past ten (10) years.
2. The team leader must be on the INDOT list of approved bridge inspectors as a team leader. The other team member may be on the list as a Team Member or Team Leader.

Note: Team Member/Leader request forms are available from the INDOT Bridge Inspection Engineer/State Bridge Program Manager. Contact information may be found at:

<http://www.in.gov/dot/div/contracts/standards/bridge/bridgeinspect.htm>.

- E. Education:** No specific education requirements.

F. Experience:

1. The Team Leader must have had responsibility for the inspection, data integrity and report preparation for at least one (1) small structure or bridge inspection contract in the three (3) years prior to the submission of the prequalification application.
2. The Team Member must have had experience in one (1) small structure or bridge inspection in the three (3) years prior to the submission of the prequalification application.

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

14.5 - Bridge Load Capacity Rating & Other Bridge Analysis/Testing

General

Federal Bridge Inspection Regulations require that a Bridge Load Capacity Rating be performed for each bridge carrying highway traffic. A number of rating vehicles and rating methods have been identified by the FHWA and INDOT as being required, in order to meet federal regulations. Since July 2004, INDOT has required that INDOT bridges be load rated in the design stage, as well as after placed in service. INDOT is currently using the AASHTO load rating program called VIRTIS to rate INDOT bridges. Since this load rating program cannot rate all types of bridges, other load rating methods can be used when appropriate to get an accurate and realistic load capacity rating. Other analysis such as fatigue and fracture analysis, or actual bridge load test, etc. shall be left undefined at this time.

Work in this category shall be completed using a load capacity rating program(s) that produces all load rating results required by the federal regulations and INDOT (checks: moment, shear, and serviceability), and produces rating values that are comparable to the values calculated by the VIRTIS load rating program.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a professional engineer licensed in the State of Indiana.
- D. **Certification:** No certification required.
- E. **Education:** No specific education requirements.
- F. **Experience:**
 - 1. Three (3) years of relevant work experience in the field of Bridge Load Capacity Rating. The qualifying person's resume should include number of years of bridge load capacity rating experience, types of bridges rated, rating programs used, and for what firm those ratings were performed.
 - 2. The qualifying person must provide a representative listing of bridges Load Rated in the last three (3) years, including:
 - a. State, county, route, district and owner
 - b. Structure type
 - c. Type of rating – working stress, load factor, LRFD, hand calculations, etc.
 - d. Type of calculations – flexure, shear, serviceability, etc.

e. Rating program

G. Submittal Requirements

1. A list of projects must be entered in the “Projects” section of the qualifying person’s information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual’s responsibilities on the project as they relate to the work type experience requirements.
2. INDOT may require that the consultant provide additional supporting documents upon request.

15.0 - Specialty Not Listed

15.1 - Specialty Not Listed

On occasion, INDOT may advertise a Request for Proposal (RFP) for services that are not covered under the defined work type categories. We realized that there are firms that specialize in performing these types of services, but are unable to become prequalified because they could not meet the requirements for any of the defined work types. Some examples of these services are Architecture, Landscape Architecture, and Subsurface Utility Engineering just to name a few. In order to provide an avenue for these firms to become prequalified, the 15.1 – Specialty Not Listed work type was created.

It is important to understand that when INDOT advertises a RFP for a specialty type of work, there will be no specific work type required. Instead, it will be advertised as General Prequalification Required and as such, any prequalified firm holding any work type would be eligible to submit a Letter of Interest (LOI) for the RFP item. It then becomes incumbent upon the firm to demonstrate in their LOI that they are the best selection for the job.

It is also important to understand that holding or not holding a particular specialty on the firm's Certificate of Approved Work Types is neither an advantage nor disadvantage as this is not considered in the scoring of the firm's LOI.

Only firms that are not approved for any defined work type(s) are allowed to hold a 15.1 – Specialty Not Listed work type. Should a firm subsequently be approved for a defined work type, the previously approved 15.1 shall be removed from their Certificate.

Although there are no written requirements for approval of a specialty work type, there are certain guidelines.

- 1.** Firms requesting a specialty work type will be required to submit a minimum of 3 projects demonstrating the qualifying person's experience in performing the specialty service(s).
- 2.** If the type of services provided require the person performing the service(s) to have a professional license, it is understood the qualifying person must hold said license and that the license must be issued by the State of Indiana.
- 3.** If the type of services provided require any type of certification, the qualifying person must hold a current version of the certification.

16.0 - Utility Coordination Category

16.1 - Utility Coordination

General

Utility Coordination is the work of identifying, mitigating or relocating utility facilities that are impacted by highway improvement projects. This work shall be performed in accordance with 105 IAC 13, Indiana Design Manual Chapter 104 and the Utility Accommodation Policy. This work includes frequent communications with utilities, review of INDOT highway plans, review of utility relocation work plans, constructability reviews of proposed relocations, preparation of agreements and site inspections during construction. The person performing this work type needs to have met the Certification requirements identified below prior to doing the work. The Indiana Design Manual can be found at:

http://www.in.gov/indot/design_manual/design_manual_2013.htm

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** None required at this time.
- D. **Certification:** The qualifying person must have successfully completed the INDOT sponsored training course for utility coordination with a passing score on the final exam of 75% or above.
- E. **Education or Experience:** The qualifying person must either:
 - (a) Hold a BS in civil engineering or related field, have a minimum of one (1) year of experience in the transportation or utility industries AND be certified by INDOT in Utility Coordination; or
 - (b) Possess a minimum of two (2) years of experience in the transportation or utility industries, at least one (1) year of experience with utility coordination, AND be certified by INDOT in Utility Coordination. Required years of experience can overlap.
- G. **Submittal Requirements**
 - 1. A list of at least four (4) projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
 - 2. INDOT may require that the consultant provide additional supporting documents upon request.

17.0 - HYDRAULIC ENGINEERING

FHWA defines a bridge as a structure with a span length greater than 20.0 feet along the centerline of roadway. For a multiple-pipe structure, this includes the distance between the pipes. The Department defines a small structure as a structure having a span length of 20.0 feet or less along the centerline of roadway between extreme ends of openings for single or multiple barrels. A structure with a span length less than 4.0 feet is defined by the Department as a pipe.

17.1 - Drainage Design for Driveway Permits

General

This work type covers all projects that include a driveway permit for a site that drains to the INDOT right-of-way.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a professional engineer licensed in the State of Indiana.
- D. **Certification:** Successful completion of INDOT's Drainage Design for Driveway Permits Training Course.
- E. **Education:** The qualifying person must have the appropriate education requirements for professional engineering license including continuing education requirements.
- F. **Experience:** The qualifying person must list a minimum of three (3) projects demonstrating that they were responsible for the design features listed in "General" above.
- G. **Submittal Requirements**
 - 1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
 - 2. Certificate of completion of INDOT's Drainage Design for Driveway Permits Training Course.
 - 3. INDOT may require that the consultant provide additional supporting documents upon request.

17.2 - Small Structure and Pipe Hydraulic Design

General

Small Structure and Pipe Hydraulic Design involves projects containing new small structures or pipes on new alignments, small structure or pipe replacements, or small structure or pipe rehabilitation.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a professional engineer licensed in the State of Indiana.
- D. **Certification:** Successful completion of INDOT's Small Structure and Pipe Hydraulic Design Training Course.
- E. **Education:** The qualifying person must have the appropriate education requirements for professional engineering license including continuing education requirements.
- F. **Experience:** The qualifying person must list a minimum of five (5) projects demonstrating that they were responsible for the design features stated in "General" above. The projects should describe the qualifying person's experience relating to as many of the design features listed in "General" above as possible.
- G. **Submittal Requirements**
 - 1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
 - 2. Certificate of completion of INDOT's Small Structure and Pipe Hydraulic Design training course.
 - 3. INDOT may require that the consultant provide additional supporting documents upon request.

17.3 - Storm Sewer and Detention Design

General

Storm Sewer and Detention Design involves projects that include storm sewer networks and or projects containing detention systems designed to limit storm water runoff release rates.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meets all of the requirements listed below.
- C. **Licensure:** The qualifying person must be a professional engineer licensed in the State of Indiana.
- D. **Certification:** Successful completion of INDOT's Storm Sewer and Detention Design Training Course.
- E. **Education:** The qualifying person must have the appropriate education requirements for professional engineering license including continuing education requirements.
- F. **Experience:** The qualifying person must list a minimum of five (5) projects demonstrating that they were responsible for the design features and the types of projects stated in "General" above. The projects should describe the qualifying person's experience relating to as many of the design features listed in "General" above as possible.
- G. **Submittal Requirements**
 - 1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
 - 2. Certificate of completion of INDOT's storm sewer and detention design training course.
 - 3. INDOT may require that the consultant provide additional supporting documents upon request.

17.4 - Bridge Hydraulic Design

General

Bridge Hydraulic Design involves projects containing hydraulic design on new bridges on new alignments, bridge replacements, and scour analysis for existing bridge rehabilitations.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have two (2) full time employees on staff that meet all of the requirements listed below.
- C. **Licensure:** The qualifying persons must be professional engineers licensed in the State of Indiana.
- D. **Certification:** Successful completion of INDOT's Bridge Hydraulic Design Training Course.
- E. **Education:** The qualifying persons must have the appropriate education requirements for professional engineering license including continuing education requirements.
- F. **Experience:** The qualifying persons must list a minimum of five (5) projects demonstrating that they were responsible for the design features stated in "General" above. The projects should describe the qualifying person's experience relating to as many of the design features listed in "General" above as possible.
- G. **Submittal Requirements**
 - 1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, who it was for, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
 - 2. Certificate of completion of INDOT's Bridge Hydraulic Design training course.
 - 3. INDOT may require that the consultant provide additional supporting documents upon request.

18.0 - PAVEMENT ANALYSIS-DESIGN SERVICES CATEGORY

18.1 - Pavement Analysis-Design Services

General

Pavement Analysis-Design Services include the performance of pavement analysis-design, pavement engineering condition assessment, pavement inspection and pavement forensic services. Aspects of the work will involve work on asphalt & concrete pavement distress identification along with functional & structural evaluation, pavement analysis & design (using AASHTO PAVEWare ME or similar softwares) and plan detailing, determination of pavement treatment cost-effectiveness for pavement maintenance, preventative maintenance functional treatment and/or structural treatment projects. Additional related work may involve Life Cycle Cost Analysis for Alternate Bid projects & cost/lane mile/year for all the projects, pavement asset management reporting, geotechnical and subsurface drainage assessments & designs, and concrete and/or asphalt pavement materials assessments. Pavement subgrade, geotechnical, pavement subsurface drainage All pavement analysis-design work shall be performed in accordance with the INDOT Design Manual, Chapter 304, the INDOT Geotechnical Manual, FHWA & AASHTO guidelines and generally accepted principles of sound pavement & geotechnical engineering practice.

Requirements

- A. **Prerequisite Work Type Approval:** No prior work type approval required.
- B. **Qualifying Person(s):** The firm must have one (1) full time employee on staff that meet all of the requirements listed below.
- C. **Licensure:** The qualifying person must be professional engineers licensed in the State of Indiana.
- D. **Certification:**
 - 1. Qualifying person must complete eighteen (18) hours of professional development during each two (2) year certification period, using courses under the topics identified in the [Course Topics for Pavement Design Engineers](#), published [here](#) by the INDOT Pavement Division, or, upon request, other courses/topics as approved by the INDOT Pavement Division.

Qualifying person for all new and renewal certificates awarded after December 31, 2019 must complete the required professional development before the certificate's expiration, or the firm will not be eligible to renew its qualification in this work type.

- 2. Upon completing the required eighteen (18) hours of professional development, the qualifying person will be added to the INDOT Pavement Division's List of Approved Pavement Designers. Qualifying person must be on the List of Approved Pavement Designers in order to renew a certificate awarded after December 31, 2019.

E. Education: Qualifying person must have a bachelor's or a master's degree in Civil Engineering or Geotechnical Engineering.

F. Experience:

1. Qualifying person must have a minimum of three (3) years of experience in Pavement Engineering or geotechnical engineering with a bachelor's degree in one (1) of the fields listed in **E. Education** above or three (3) years of experience in Pavement Engineering or geotechnical engineering with a master's degree in one (1) of the fields stated in **E. Education** above. Only two (2) years of experience in the below fields is necessary if the qualifying person has a master's degree specifically related to pavement analysis-design, pavement engineering condition assessment, pavement inspection, or pavement forensic services.
2. Qualifying persons must list a minimum of four (4) projects demonstrating design or review level involvement in the following:
 - (a) Asphalt and concrete pavement evaluation & rehabilitation
 - (b) Pavement subsurface drainage design and geotechnical aspects of pavement.
 - (c) Mechanistic-Empirical Pavement Design Guide method of pavement analysis-design
 - (d) Asphalt and concrete pavement design details and construction methods
 - (e) Pavement maintenance and preservation
 - (f) Asphalt and concrete pavement materials
 - (g) Pavement asset management

G. Submittal Requirements

1. A list of projects must be entered in the "Projects" section of the qualifying person's information in the PSCS. All projects should include a brief description of the project, client, year of completion, and a detailed description of the individual's responsibilities on the project as they relate to the work type experience requirements.
2. For renewal of certificates awarded after December 31, 2019, evidence that the qualifying person completed the professional development specified in the certification requirements.
3. INDOT may require that the consultant provide additional supporting documents upon request.

I. Prequalification Committee Action

The INDOT Prequalification Committee has jurisdiction to regulate the status of consultant prequalification by virtue of 105 IAC 11-1-20 and 105 IAC 11-2-4. The remaining policies and procedures contained under 105 IAC 11-1 through 105 IAC 11-3 pertain to Committee regulation of bidders only, not consultants. Consistent with Ind. Code 8-23-2-12, the policy and procedures governing Committee are promulgated in this manual, to conform to the requirement that consultant contracts be awarded “on the basis of competence and qualifications for the type of services to be performed.”

The following guidelines apply to Committee activity involving consultant prequalification:

1. **Committee Authority:** Pursuant to I.C. 8-23-2-6(a)(2), which allows INDOT to contract with people outside the agency for certain services, and I.C. 8-23-2-12, which allows INDOT to make contracts for professional services of engineers or land surveyors based on competence and qualifications, the Committee may do the following:
 - a. Consider issues that may reflect a Consultant’s competence or qualifications to perform INDOT work. The Committee may act on issues referred to the Committee by others or brought to the Committee by its members.
 - b. Investigate, request documents, and interview witnesses and other persons or entities deemed relevant to an issue that may affect a Consultant’s competence or qualifications to perform INDOT work.
 - c. Act on existing certificates of qualifications or applications for certificates of qualification consistent with these guidelines.
 - d. Review policies or changes to the Consultant Prequalification Manual.
2. **Committee Recommendations to the Commissioner:** The Committee may recommend a course of action affecting the Consultant’s prequalification status to the Commissioner. The Commissioner, in the exercise of the Commissioner’s sole discretion, may accept or reject the recommendations of the Committee.

The Prequalification Committee may recommend the Commissioner take any of the following actions:

- a. **Change in certificate of qualification:** The Committee may recommend a change in the certificate of qualification issued to a Consultant based upon the receipt of additional information, including any information on past performance relevant to a Consultant’s competence or qualifications to perform INDOT work.
- b. **Suspension of a certificate of qualification:** The Committee may recommend the suspension of the Consultant’s certificate of qualification for a specified period of time if the Consultant committed an error or omission or if the Consultant’s work is otherwise unsatisfactory, if it is apparent the

Consultant has not or will not be able to complete its contracts on time, or if the Consultant has failed to comply with a state or federal law, regulation or rule or an INDOT policy or procedure.

- c. Withdrawal of certificate of qualification: The Committee may recommend withdrawal of a certificate of qualification if it administratively determines that the Consultant is no longer active or in existence.
- d. Revocation of certificate of qualification: The Committee may recommend the revocation of a certificate of qualification if it finds the Consultant has done any of the following:
 - i. failed to timely pay or satisfactorily settle any bills due to labor and material on former or existing INDOT contracts;
 - ii. violated either a state or federal law or regulation or the rules of a state or federal department, board, bureau, agency or commission;
 - iii. defaulted on a contract;
 - iv. falsified any document required by the department or any agency of the state of Indiana or federal government;
 - v. failed to perform any part or portion of an existing or previous contract;
 - vi. failed to submit information, documented explanations or evidence required in the contract documents in a timely manner;
 - vii. has been debarred by a federal or state agency;
 - viii. failed to comply with any and all requirements concerning the Disadvantaged Business Enterprise (DBE) or Minority/Women Business Enterprise (M/WBE) programs;
 - ix. violated an INDOT ethics policy;
 - x. committed an error or omission as determined by INDOT

Notice to the Consultant: The Commissioner or Prequalification Engineer will provide written notice to the Consultant of any action taken by the Commissioner based on the Committee's recommendations.

Right to Appeal: All actions by the Commissioner based on Committee recommendations are effective fifteen (15) days after the Consultant receives the Commissioner's notice, unless the Consultant exercises its right to appeal under Section 5 below. If the Consultant chooses to appeal the Commissioner's action, the action is effective after completion of the Appeals Procedure under Section 5.

Appeals Procedure: A Consultant aggrieved by the decision of the Commissioner based on the Committee's recommendation in regard to the Consultant's qualification, suspension, withdrawal, revocation, or change in either work type or capacity may appeal the Commissioner's decision. The Appeals Procedure will involve the following:
The Consultant will make a written request for an appeal of the decision to the

prequalification engineer, with a copy to the Commissioner. INDOT must receive the Consultant's request for an appeal within fifteen (15) days after the Consultant receives notification of the Commissioner's decision. The request must include written justification bearing on the Consultant's qualifications and introducing new information the Committee has not previously considered.

In addition, the Consultant may request to appear personally before the Committee. The Committee will consider the written request within thirty (30) days after its receipt. The Committee may request additional information, a personal interview with the Consultant, or both.

The Committee will make a recommendation on the outcome of the appeal to the Commissioner.

The Commissioner will make a final agency determination regarding the appeal and notify the Consultant in writing of the decision.

If the Consultant fails to follow the appeal procedure set up in this section within the specified time frames, the Consultant will be deemed to have accepted INDOT's decision as final and deemed to have waived any right to further administrative appeal.

Entities Controlled by the Same Owners: A Consultant shall not employ any scheme or device to evade the effect of actions taken by the Committee or the Commissioner as to the Consultant's prequalification status. The Committee may extend action it or the Commissioner has taken to an entity controlled by certain owners or officers of a Consultant if the Committee determines the extension is necessary to prevent a circumvention of the Committee or Commissioner's actions.

Resubmittal Procedure: A Consultant who is dissatisfied with the Committee or the Commissioner's decision regarding its prequalification status may at any time after the expiration of ninety (90) days from the date of INDOT's previous decision request a change or file a new application for qualification.

Other Committee Rules and Policies: Other general rules and policies governing Committee procedures will apply to the Committee's consideration of a Consultant's prequalification status.

Commissioner's Discretion: Nothing in this policy affects the Commissioner's discretion to make qualifications-based selections of Consultants for a particular contract or INDOT's ability to seek recovery for an error omission under INDOT policy.