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CHAPTER SIX

CONSULTANT SERVICES PROCEDURES

6-1.0 CONSULTING SERVICES

6-1.01 Procedures

The INDOT Consulting Services Procedures govern consultant design/plan development. These were revised May 1998 and approved on July 15, 1998. The approved INDOT Consulting Services Procedures are shown as Figure 6-1A.

6-1.02 How the Consultant Submits Plans and/or Reports

The consultant submits plans and/or reports to the Department as shown below.

INDOT Design Division
Consultant Services Section
100 N. Senate Ave., IGC N642
Indianapolis, IN 46204

Attn: (Name of Project Coordinator)

All plans, reports, and Quality Assurance Forms that are being submitted to the Design Division must be submitted to its Consultant Services Section's project coordinator. The plans and/or reports should not be submitted directly to the reviewers.

6-2.0 QUALITY ASSURANCE PROCEDURES

6-2.01 Introduction

The purpose of these procedures is to demonstrate to the Design Division that quality control measures are being incorporated into the design process. The increased awareness and documentation provided by these procedures is intended to provide the Design Division with a level of confidence in the quality of plans which will promote a reduction in review time resulting in quicker turnaround times for plan submittals.

These procedures are not intended to replace quality control measures currently in use but to promote an increased awareness regarding the importance of quality control in the design process. Computation sheets and drawings must still be initialed by the originator and checker as per past practice. Review of items should be done independently by a second qualified individual. The qualifications of the checker should be commensurate with the item to be reviewed. For example, a second drafter would be qualified to check preliminary plotting but, usually, only an engineer would be qualified to review structural computations for bridge design.

6-2.02 Quality Assurance Form

The designer must complete the Quality Assurance Form, Figure 6-2A, and include it with each submittal. An editable version of this form may also be found on the Department's website at www.in.gov/dot/div/contracts/design/dmforms/ .The reviewer must provide a signature with the name typed or neatly printed below the signature line. The item blank will generally be the corresponding number from the appropriate checklist in Chapter Fourteen which was checked by the reviewer. The items identified by letters beneath each numbered item are not to be listed unless these items were reviewed by more than one individual. If some numbered items are not applicable for a specific project, they should be listed with a "N/A" in the reviewer space. When items are reviewed which do not correspond to a number in the checklist, a short description should be included in the item space.

***** PRACTICE POINTER *****

The Quality Assurance Form is to be signed by both the designer and the reviewer.

Immediately prior to submittal, the project manager will review the plans for consistency between sheets, completeness and overall content. This will include verifying that the proper number of plans and items such as construction cost estimates are included with the submittal. The project manager should also verify that all revisions requested from a previous submittal have been made or communicate what changes were not made and why. Providing the name and telephone number of the project manager is important for future communication between the INDOT reviewer and the project manager. Telephone conversations are encouraged to clarify items or answer questions during the review process.

Changes which are made to the plans that are not requested by the Design Division should be communicated for each submittal. A note could be written on the plans or included in the remarks section of the Quality Assurance Form. The remarks section could also be used to list any revisions

requested which were not made with an appropriate reason; however, the project manager is encouraged to discuss these items with the INDOT reviewers prior to submittal.

6-2.03 Structural Review Plan

For a project which involves a bridge structure, the consultant shall provide a plan for checking structural design and detail computations prior to proceeding with the design. The consultant shall provide written certification that the approved process has been followed along with the submittal of final plans.

6-2.04 Plan Submittal

Chapter Fourteen includes plan submittal information for the following types of projects.

1. Road Design (new construction/reconstruction);
2. Interstate Rehabilitation;
3. Bridge (new bridge construction/bridge replacement);
4. Bridge Rehabilitation;
5. Signing;
6. Signals; and
7. Lighting.

The checklists included in Chapter Fourteen are intended as a guide and are not all inclusive. These lists are not a checklist of drafting and design items to be included on the plans. Their purpose is to provide a minimum list of items that are to be independently reviewed prior to submittal. The numbers of the items in the checklist are to be the items listed on the Quality Assurance Form. The applicable portions of the *Indiana Design Manual*, INDOT memoranda, and other available publications should be consulted regarding specific technical procedures, formats, etc.

6-3.0 CONSULTANT EVALUATION

6-3.01 Introduction

To monitor the quality of the plans prepared by consulting firms and being reviewed by INDOT, evaluations are performed on most plan and document submittals. A copy of each completed evaluation will be returned to the consultant. The consultant has the right to question any of the ratings. The results of the evaluations will be used in the selection of consultants for future projects.

The Level I design criteria presented in Section 40-8 are all considered to be major items.

6-3.02 Rating Definitions

The review of each submittal is being performed so the consultant has an idea of how the quality of its work is being perceived by INDOT as the project is being developed. The review of the completed evaluations can be extremely important to a consultant's project manager, because the evaluation reflects the comments within the reviewed plans and/or reports. If there are any questions with regard to the rating, the evaluator will answer these questions. A rating of 3, 2, or 1 indicates that the reviewer felt the item reviewed was substandard. If a consultant questions an evaluation solely because a substandard rating impacts the consultant's future selection, it will not be well-received. At the same time, INDOT reviewers can sometimes make a mistake in the rating. If this is true, and a valid reason is presented, the Department will be more than willing to revise a rating.

The ratings will range from a high of 5 to a low of 1. The general interpretations of the ratings are as follows:

5 - Excellent. The consultant went above and beyond what was required. One or two very minor revisions will be allowed.

4 - Good. There were some revisions necessary and, of those found, they were minor.

3 - Marginal. There were many necessary revisions and, of those found, one or two were major and the remainder were minor.

2 - Poor. There were many revisions necessary and, of those found, three or four were major and the remainder were minor.

1 - Unsatisfactory. There was a considerable amount of necessary revisions, with a majority of them being major.

6-3.03 Plan Evaluation

A copy of the blank plan evaluation form used by the Design Division is shown as Figure6-3A, Routing/Evaluation Form/Design Plan Process. The form is also used as a routing slip within the Department. This form will be attached to all submittals of plans and/or reports to be reviewed. An editable version of this form may also be found on the Department's website at www.in.gov/dot/div/contracts/design/dmforms/ .

The Design Division's Consultant Services Section's project coordinator initiates the use of the form

when the consultant makes a submission. The project coordinator completes the general project information and the coordination unit rating items. The general project information is found at the top of the form.

The section and reviewer to whom the plans and/or report are being sent can be found on the top of the evaluation form. On the middle left of the evaluation form is where the project coordinator indicates the type of plans and/or report that has been submitted. On the lower left, the project coordinator indicates what other information was included in the submittal.

Items to be rated are located on the right half of the evaluation form. The project reviewer rates the items found in the middle right under Reviewer's Rating Items. The project coordinator rates the items found at the lower right under Coordinator's Rating Items. The rating to be used is found at the lower right of the evaluation form.

At the very bottom of the form is the final area to be completed by the reviewer. In this area the reviewer can indicate what submittal of plans and/or report to be submitted next. The reviewer also indicates whether the revisions to the evaluated plans and/or report were major or not. This helps the project coordinator set a due date for the next submission. The last line on the form is for the reviewer to sign and date the evaluation which has been completed.

6-3.03(01) How the Consultant Services Section Project Coordinator Rates the Submittals

When plans, reports, and Quality Assurance Forms are submitted to the project coordinator, an evaluation form will be attached to the submittal. The evaluation form also serves as a routing slip for the submittal.

The project coordinator is responsible for rating the submission for scheduling and procedure compliance. These items can be found in the lower right corner of the standard evaluation form. The rating for these items is as follows:

1. Scheduling. The rating of this item by the project coordinator is as follows:

   Once a due date has been presented to the consultant, it is the consultant's responsibility to meet that due date. If a due date can not be met, the consultant must contact the project coordinator.

   If the consultant requests that a due date be revised, the consultant will work with the project coordinator to identify an acceptable revised due date. If the due date is being revised due to reasons beyond the consultant's control or responsibility, the consultant's rating for scheduling can still be a 4 or 5 provided the revised due date is met. If the revision of the

due date is a result of the consultant's own work, the rating must be a 3, 2, or 1. Because the consultant did contact the project Coordinator and revised the due date, the consultant will not be penalized for the procedure compliance rating due to scheduling problems.

2. Procedure Compliance. The rating of this item will be based on the overall completeness of the submittal with regards to plan submittal procedures. Substandard ratings (3, 2, 1) could result because of the following:

   a. all of the items requested were not received,
   b. the consultant did not contact the Project Coordinator to revise the due date, or
   c. the correct number of copies of a requested item were not received.

   A 1 will be given if the Quality Assurance Form is not received with each submission. These are typical reasons for a rating of 3, 2, or 1 for Procedure Compliance.

6-3.03(02) How the INDOT Reviewers Rate the Submittal

Figure 6-3B, Items Rated for Each Submittal, General Plans Review, and Figure 6-3C, Items Rated for Each Submittal, Bridge Rehabilitation Review, illustrate the items which will be checked at each project stage. The following briefly describes each item.

1. Design Concept. The consultant will be evaluated on the completeness of a proposed design concept. The term completeness encompasses how well the consultant has thought through all of the necessary factors that promote the best possible design. If certain items were omitted from the design concept that are detrimental to the design, a lower rating will be issued.

   If the consultant is following the Engineer's Report that has been previously established by the Environment, Planning and Engineering Division's Preliminary Engineering Studies Section, the evaluation will reflect how well the consultant has followed that Report. The evaluation will also consider how well the consultant has addressed any obstacle that was encountered and not foreseen when the development of the Engineer's Report was completed.

2. Critical Design Elements. Section 40-8 discusses the Level I Design Criteria. Failure to satisfactorily address all applicable Level I Design Criteria will result in a rating no higher than 3.

3. Calculations. The operations of mathematical computations and deletions and/or additions to the computations are areas of scrutiny. With the implementation of the Quality Assurance

Program, the review of how well the computations were executed will not be examined as thoroughly as in the past. However, spot checking will occur and the rating of this item will reflect the spot checking. The scoring will be as follows:

a. A major error is defined as an error originating from the computations that will result in a significant design change.

b. A minor error is one that poses no change to any element of the design.

If computations are not submitted because of the nature of the submittal or if they were not warranted, this item will not be rated. If the reviewer believes that some computations were needed but not submitted, the reviewer will not rate this category on this basis alone. This will be addressed in the Documentation of Work item, thereby, eliminating double penalties.

4. Plan/Report Quality. All material submitted at each stage of development such as plans, Design Summary (DS), design computations, special provisions, and any other supportive material will be evaluated. Ratings will be based on legibility, structure, and print quality.

5. Engineering Judgment. The rating of this item is subjective to the evaluator. If it is felt that poor or good judgment was used, the rating will reflect this. Engineering Judgment will be evaluated for areas such as rehabilitation options, project constructability, selection of construction materials, and maintenance of traffic scheme.

6. Documentation of Work. This item will be rated based on how well each design decision is documented or if they were documented at all. A majority of the documentation will be found in the Design Summary, but documentation can also occur elsewhere.

7. Environmental Mitigation/Permit Compliance. This item will be rated on the basis of whether the consultant has included all required environmental mitigation measures. This rating will also depend upon whether the consultant has identified all necessary permits and has initiated permit applications in a timely manner so that the permits are approved at the appropriate time.

8. Procedure/Standard Compliance. This category will evaluate how well the consultant is familiar with Federal, State and local policies, and will consider how well the consultant uses the available standards and guidelines and if the standards and guidelines were implemented properly into the design. This category will also evaluate how well the consultant follows established procedures for items such as foundation reviews, the final tracings submittal memorandum to the Contracts and Construction Division's Contract Services Section, etc.

9. Quality Assurance. The reviewer will rate this category based upon the consultant's compliance with the Quality Assurance Guidelines. Design computations should be initialed

by both the design engineer and a second engineer who has reviewed the design engineer's work. This item rating is intended to monitor how well the consultant has performed the evaluation of checks and balances required for quality assurance including the submittal of the Quality Assurance Evaluation Form.

10. Cooperation. The reviewer will base this rating on how well the consultant cooperates with the reviewer when changes are requested. Willingness to answer questions and ease of participation for project development will also be a part of this category.

6-3.04 Design Exception Evaluation

The Design Division will review all Design Exception requests using the form shown as Figure 6-3D, Routing/Evaluation Form/Design Plan Process – Design Exception. An editable version of this form may also be found on the Department's website at www.in.gov/dot/div/contracts/design/dmforms/ . The following briefly describes each rating item.

1. Identification of Need. The reviewer will evaluate how well the consultant determines the need for a design exception.

2. Analysis. The reviewer will evaluate how well the consultant documents the basis and rationale for granting the requested design exception(s).

3. Procedure/Compliance. The reviewer will evaluate how well the consultant complies with Section 40-8.04(01).

4. Cooperation. The reviewer will base this rating on how well the consultant cooperates with the reviewer when changes are requested. Willingness to answer questions will also be part of this category.

5. Timeliness. The reviewer will base this rating on the timeliness of the submission. A design exception should not be applied for until after the preliminary field check is held. Thereafter, the consultant should apply for a design exception after determining that a critical design element (Level 1) does not meet the appropriate criteria in the *Indiana Design Manual*.

6-3.05 Contracts and Construction Evaluation

The Contracts and Construction Division will review all consultant-prepared contract documents just prior to contract letting using the form shown as Figure 6-3E, Routing/Evaluation Form/Design Plan Process – Contracts and Construction. An editable version of this form may also be found on the

Department's website at www.in.gov/dot/div/contracts/design/dmforms/ . The following briefly describes each rating item.

1. Special Provisions. The reviewer will evaluate whether or not the consultant has properly specified needed special provisions and unique special provisions.

2. Pay Items. The reviewer will evaluate whether or not the correct pay items and unique pay items are specified.

3. Procedure/Standard Compliance. The reviewer will base this rating on whether or not the right format is used in supplying contract special provisions, pay items, estimates, etc.

4. Cooperation. The reviewer will base this rating on how well the consultant cooperates with the reviewer when changes are requested.