INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

Design Memorandum No. 16-04
Technical Advisory

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TO: **All Design, Operations, District Personnel, and Consultants**

FROM: ***/s/Kenneth Franklin***
Kenneth Franklin
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Capital Program Management

SUBJECT: **Designer Summary of Required Utility Relocation - Project Design and Utility Summary**

EFFECTIVE: **Projects With Unresolved Utility Conflicts**

This memo is to clarify the requirements in the Indiana Design Manual Chapter 104 regarding making reasonable efforts to design around existing utilities and documenting this effort for approval by the project manager. A Project Design and Utility Summary table has been created as a tool for documentation and as a decision matrix for utility conflict resolutions. The Project Design and Utility Summary table is available from the Department's Utility Coordination Standard Documents website at http://www.in.gov/indot/3269.htm.

It is imperative to establish the total project footprint and costs as early in the project development process as possible. A project's purpose and need as described in the Engineering Assessment or other prior studies and considerations need to be verified and substantiated in accordance with the Department's Open Roads Program Guide. Evaluating alternatives to utility relocation is consistent with the Open Roads Project Review process as impacts with Utilities can directly affect the budget, schedule, environmental studies, right of way acquisition, and constructability. Alternative analysis is an iterative process that requires a collaborative effort among the Designer, Project Manager, Utility Coordinator, affected Utilities, as well as Environmental Services, Real Estate, and Construction Divisions. For example, designing around a utility may eliminate the need for right of way acquisition and allow for an accelerated schedule. By defining the proposed project footprint, evaluating existing utilities to remain in place, and utilities proposed to be relocated, "everyone knows where everyone goes".

When to Start

The complexity of the project and the level of existing utility involvement will define the extent of design alternatives analysis. The project team should set the expectations at the initiation of the project. This could be at the Start Plan Development date, project kick-off meeting, or even earlier when scoping is part of the design services contract. The expectations should align with the project's purpose and need, project cost, project schedule, and be documented. Timing will be critical in developing the Design Around utility alternatives in order to keep the project on schedule.

Documentation

When an existing Utility cannot be designed around, the designer should summarize specific locations and provide justification to impact the Utility. Where it is feasible to leave a utility in place, a brief description and cost estimate of the Design Around alternative should be developed and included with the summary table. As early as possible in the project development stage, the designer should develop an initial summary when utilities cannot be designed around and identify the need for additional information (underground manhole/vault dimensions, need for Subsurface Utility Engineering [SUE], etc). The initial project design and utility summary should be submitted to the Utility Coordinator and Project Manager. The Utility Coordinator will engage the Utilities for facility information details, eligibility for reimbursement, identifying conflict points, relocation options, and relocation costs. The Design Around alternative and cost to leave the utility in place is an extremely valuable option for the Utility and Project Team to consider when determining a recommended solution to a utility conflict.

The summary table and Design Around cost estimate should be of sufficient detail and accuracy in order for the Utility Coordinator, the Designer, and the Project Manager to collaborate with the rest of the project team to determine a final resolution to each conflict.

As new information becomes available, the project design is refined, design changes are required, and at each major project development milestone, the project design and utility summary table and cost estimate should be updated and shared with the project team.

Designers should expect the analysis process to continue into the later stages of project development or until a resolution is agreed upon. For example, an undergound utility may be in conflict with a proposed footer, but the exact elevation of the utility is not available until the completion of SUE and the geotechnical report is complete to finalize the footer design; or right-of-way changes due to the buying process require a retaining wall and present a new utility conflict.

Questions regarding the designer's responsibility to design around utilities or the project design and utility summary table should be directed to Mike Hoy, Utilities and Railroad Division, at mhoy@indot.in.gov.