



Connecticut DOT

Number: ECD-2016-6

Bureau of Engineering and Construction

Date: September 23, 2016

ENGINEERING & CONSTRUCTION DIRECTIVE

Chief Engineer

Design Issue Procedure

The attached procedure supersedes the January 19, 2011 memorandum on the “Design Issue Procedure.” Significant changes include:

- The language has been revised throughout to clarify that it is the responsibility for both Engineering and Construction personnel to identify design issues.
- The Office of Construction responsibilities have been revised to include an initial review of the Construction Issue Form to determine if the issue is due solely to an increase or decrease in quantity, differing site condition, or if the project was designed in-house by State forces. In these situations, the Design Issue will be forwarded to the Office of Construction Section responsible for developing Best Practices/Lessons Learned.
- Following the Design Issue Panel’s initial determination, the potential design errors will be discussed with the Engineering and Construction Administrators, and the Chief Engineer who will then provide further direction.
- The dollar value for the Construction Issue Form has been increased to \$250,000.

This directive is effectively immediately.

Design Issue Procedure

It is the responsibility of Construction and Engineering personnel engaged in the administration of construction projects to notify the Transportation Principal Engineer who oversees the Claims and Litigation Section (TPE–Claims) of potential design issues in accordance with this procedure.

Design issues may be the result of design errors, omissions, or oversights that may lead to increased costs, or may make it infeasible or impracticable to complete the construction as designed and bid, or may require changes in the contract, plans, or specifications in order to complete the original scope of the project. To facilitate the identification and evaluation process, the Construction Issue Form was created and will be processed in accordance with the guidance outlined below.

A construction issue may or may not entail a design error or omission that the Department will pursue. This determination will only be made in concert with the Design Issue Panel Chairperson, the Engineering and Construction Administrators, the Bureau Chief of Engineering and Construction, the representative from the Office of the Attorney General and, if warranted, the Office of Legal Services.

Construction Issue Form

A Construction Issue Form (Form) is required when:

- an issue is expected to increase the contract cost by 5% or \$250,000, whichever is less; or
- multiple impacts related to an issue or related issues that in aggregate increase the contract cost by 5% or \$250,000; or
- an issue is expected to create a significant impact, as determined by the Assistant District Engineer (ADE) or the lead TPE from the Office of Engineering.

NOTE: An issue can affect one item or multiple items. Therefore, when considering the impact of such issue(s), you must add the value of all items of work that were changed due to the impact(s) to determine the full extent. Staff must make every effort to estimate the final value of the issue when it arises and process the Form in a timely manner.

The Form should be drafted by the Transportation Engineer 2 or 3 (Engineering or Construction) and then be reviewed by the Supervising Engineer. The completed Form must be signed by the ADE or lead TPE from the Office of Engineering and sent to the TPE–Claims. The completed Form shall include statements of fact only (no opinions, determinations, or statements of design error). The facts must be supported with written contemporaneous documentation, such as letters from the Contractor, field memoranda, e-mails, design computations, or meeting minutes and must describe potential effects of the design issue, such as, but not limited to; delays, costs, environmental impacts, property impacts, or traffic impacts.

For Engineering only

An alternative to utilizing the Form will be for the lead TPE–Engineering to notify the TPE–Claims by e-mail of any design issue that meets the thresholds described above. In this case, a meeting will be held to document the same information required on the Form. The lead design unit will retain written or electronic contemporaneous documentation, such as e-mails, design initiated construction orders, design computations, consultant billings, or meeting minutes to support the facts of the issue as well as the actions taken to correct the design issue. This will include any direction to the consultant documenting the reimbursement or non-reimbursement for previous work or additional work to correct the design issue. If there is an agreement that hours of work being performed by the consultant designer are not being reimbursed, the consultant must still document those hours and submit them to the Department for informational purposes.

Office of Construction Responsibilities

The Office of Construction (OOC) Claims and Litigation Section will perform an initial review of the Form to determine: (1) if the issue is due solely to an estimate error leading to an increase in quantity necessary to complete the original work; (2) if the issue is due solely to a differing site condition; or (3) if the Contract was designed in-house by State forces. In these situations, the Form will be forwarded to the OOC Section responsible for developing Best Practices/Lessons Learned.

If the OOC review determines the issue is not related to the situations noted above, the TPE–Claims will forward the Form to the appropriate lead TPE from the Office of Engineering for investigation. Once the Office of Engineering completes its investigation, the OOC will arrange a meeting with the Design Issue Panel.

Office of Engineering's Investigation

Upon receipt of a Form or direction from the TPE–Claims, the Office of Engineering will investigate the issues(s), conferring with the consultant design engineer, the OOC, and others, as necessary or appropriate. After completing its investigation, which should be completed within sixty (60) days, the Office of Engineering’s designated representatives will attend the “Design Issue Panel” meeting.

Active Claim by a Contractor

If an error or omission is alleged in a claim by a Contractor, the OOC will forward appropriate sections of the claim to the Office of Engineering via a memorandum from the Construction Division Chief to the appropriate Engineering Division Chief. The Office of Engineering will forward appropriate information to the Consulting Engineer. If so requested by the OOC or the Office of the Attorney General, the Office of Engineering will engage the consultant engineer to provide support for the defense of the claim. At the discretion of the TPE–Claims, the analysis of the Design Issue may be tabled until the resolution of the Contractor claim.

Design Issue Panel

The function of the Design Issue Panel is to evaluate construction and design issues to determine whether there is sufficient evidence that an issue is a clear omission or if there is substantial evidence that an error may exist. The Design Issue Panel will consist of:

- The TPE–Claims who will be the Panel Chairperson.
- One other member from the OOC (typically a TSE or above).
- Two TPEs from the Office of Engineering who were not responsible for oversight of the project related to the specific design issue.
- An attorney from the Office of the Attorney General, acting as counsel.

The Panel Chairperson will schedule the Design Issue meeting with District Construction and Engineering staff who worked on the project involving the Design Issue. The Construction and Engineering staff will present the issue and their findings from their investigation, and will respond to questions from the Panel. If additional information or investigation is necessary, the Construction and Engineering staff will be directed to do so, and future meeting(s) will be held.

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Once the Panel hears the presentation, they will then either come to a consensus whether the issue is clearly a design omission or that a possible design error exists. If the Panel determines that there is not substantial evidence that a design error has occurred, no further action will be necessary at that time. If, however, the Panel determines that a design error may have been made, the Panel Chairperson will discuss the issue with the Engineering and Construction Administrators, the Bureau Chief of Engineering and Construction and the representative from the Office of the Attorney General. The Chief Engineer will determine if subsequent discussions with the Consultant designer are necessary. The Panel Chairman will also apprise the Office of Legal Services of potential designer responsibility and will continually update them on the status of resolution. Any further action by the Department will be coordinated by the OOC, with the Chief Engineer, the Office of Legal Services and the Office of the Attorney General.