Liability of Design-Builders for Design, Construction, and Acquisition Claims

DETAILS

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LIABILITY OF DESIGN–BUILDERS FOR DESIGN, CONSTRUCTION, AND ACQUISITION CLAIMS

This report was prepared under NCHRP Project 20-06, Topic 20-02, "Legal Problems Arising Out of Highway Programs," for which the Transportation Research Board is the agency coordinating the research. The report was prepared by Michael C. Loulakis, Capital Project Strategies, LLC; Nancy C. Smith, Donna L. Brady, and Rick E. Rayl, Nossaman LLP; and Douglas D. Gransberg, Gransberg and Associates. James B. McDaniel, TRB Counsel for Legal Research Projects, was the principal investigator and content editor.

The Problem and Its Solution

State highway departments and transportation agencies have a continuing need to keep abreast of operating practices and legal elements of specific problems in highway law. This report continues NCHRP's practice of keeping departments up-to-date on laws that will affect their operations.

Applications

Design–build is generally seen as providing a means to accelerate a project by providing a single point of responsibility for design, construction, and related claims. A design–build contracting team typically handles or prevents constructions claims based on defective design that arise during and even after construction has been completed. Design–build procedures can also impact the acquisition of right-of-way needed for a project.

Research is needed on whether liability for design, construction, or acquisition damages is always transferred to the design–builder. Transfer of liability depends on relevant statutes and case law and is also affected by the level of design performed by the agency prior to award of a design–build contract, the terms and conditions of the contract, and the actions of the parties during the course of design and construction. Information on the underlying legal rules affecting transfer of liability will be a useful tool for transportation agencies that are planning design–build procurements, drafting procurement and contract documents, administering contracts, and litigating tort, construction, and acquisition claims.

This digest:

- Discusses case law relevant to design liability, particularly in design–build contracts, including the extent to which a high level of pre-contract design and a high level of discretion regarding design decisions or project acceptance may affect an agency's ability to transfer design liability.
- Provides examples of contract language relevant to design liability (including performance standards, indemnification provisions, insurance requirements, warranties, disclaimers regarding design furnished by the project owner, and language making it clear that approval of the design by the owner does not affect the design–builder's liability).
- Provides information about state laws relevant to liability and indemnity for design–build projects, including laws regarding design immunity and statutes of limitation and repose.
- Addresses the extent to which design–build procedures and deadlines, including design changes, impact the acquisition of right-of-way and condemnation proceedings.

It should be helpful for administrators, contracting officials, attorneys, planners, engineers, agency financial officials, and staff involved in the construction process.

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By Michael C. Loulakis, Capital Project Strategies, LLC; Nancy C. Smith, Donna L. Brady, and Rick E. Rayl, Nossaman LLP; and Douglas D. Gransberg, Gransberg and Associates

I. INTRODUCTION

The rights and duties of those contracting under traditional project delivery methods, where the owner has separate contracts with design professionals and contractors, are relatively well-defined and predictable. This is the result of more than 100 years of judicial precedent, where courts around the country have collectively defined what design professionals and contractors owe to their clients and to third parties that may be affected by their work.

Based on this judicial precedent, it is well accepted that contractors on design–bid–build projects have a firm obligation to meet the owner's plans and specifications. If, however, the contractor fully complies with the plans and specifications, and the project fails to meet the owner's intended purposes, the contractor is not liable for the consequences. If design errors impact construction, the owner is obligated to pay the contractor for the consequences of those errors. These conclusions stem from the *Spearin* doctrine, a concept that is familiar to most state transportation agencies and other public sector owners.

Case law also provides judicial clarity regarding a designer's liability for design errors and omissions. Absent a contract provision to the contrary, designers are only liable if they fail to comply with what a similarly situated designer would have done under similar circumstances. Stated differently, designers do not guarantee that their work will be perfect or error-free. As a result, when a project experiences a design defect that increases costs, the owner may be unable to recover those costs from the designer.

The design–build process changes many of the legal paradigms under which the construction industry has operated. Although the concept dates back thousands of years to ancient Egypt, design–build in the United States, particularly in the public sector, was relatively unheard of until the mid-1990s. Due to federal and state procurement reform at that time, design–build then became an attractive alternative to design–bid–build and at-risk construction management for many reasons, including the following:

> The design–build process accelerates project delivery by allowing procurement of the construction contractor (who is part of the design–build team) to begin before the plans and specifications are fully completed;
>
> The design–build process allows construction contractors to be involved in the design process, giving owners the benefits of their insight, including more creative design alternatives;
>
> The design–build process puts the construction contractor and designer in a direct contractual relationship, which can enhance working relationships between them and result in tangible benefits to the project and the owner.

The last point is central to risk allocation and design–build liability. Because design–build contractually binds the designer and construction contractor, the owner is able to contract for its project on a "single point of responsibility" basis. As a consequence, whether a problem is caused by a design defect or defective construction is immaterial—the design–builder is responsible for both. By eliminating the "liability gap" created when the owner has separate contracts with the designer and construction contractor, the owner sheds significant risk, and the design–builder assumes significant potential liability.

Design–build has also enabled some state transportation agencies to shed risk arising from the right-of-way acquisition and utility relocation processes. Because of design–build's speed of delivery, it can be beneficial for the transportation agency to require the design–builder to perform property acquisition and utility relocation. Depending on the processes used by those agencies, the design–builder will likely assume liability for performing these services.

Some transportation agencies believe that using design–build can shift all risk and liability to the design–builder. This is a misconception—design–build does not create a risk-free project for the owner. Owners that act in a way that impacts the design–builder will be held responsible, notwithstanding contract language to the contrary. As a result, when something goes wrong on a project, it is not unusual to see a dispute between the owner and design–builder over who bears responsibility.

The purpose of this digest is to thoroughly examine the design–builder's liability for design, construction, and acquisition claims. Section II provides an overview of design and construction liability from the design–bid–build perspective. It addresses, among other topics, the *Spearin* doctrine, and design liability concepts. Sections III and IV focus on the design–build process and examine contract clauses

related to design development and contract administration issues affecting the design process.

The heart of this digest is Sections V, VI, and VII. Section V provides a comprehensive discussion of the right-of-way acquisition process, both from an administrative and a risk/liability perspective. Section VI examines design–build case law relating to design and construction liability. It considers many of the challenging issues confronting transportation agencies in the design process, including the liability arising out of defective preliminary design and site condition information, as well as liability associated with the design review and approval process. It also reviews cases discussing the liability of designers that work as part of the design–build team. Section VII examines state laws and concepts relative to statutes of limitation and repose, anti-indemnity statutes, and sovereign immunity.

The digest closes with case studies in Section VIII and concluding thoughts in Section IX. The case studies are diverse and focus on three discrete topics. One involves the results of arbitration between a design–builder and its lead designer on the South Carolina Department of Transportation's Cooper River Bridge project. The second set is derived from information received from professional liability insurance carriers, each of whom has substantial experience in addressing claims for design defects under design–build and other project delivery systems. The last set of case studies summarizes a handful of design–build projects where the transportation agency adopted some creative design development approaches.

II. PRINCIPLES OF CONSTRUCTION AND DESIGN LIABILITY

The liability framework for the U.S. construction industry, and particularly the transportation sector, has been based largely on projects delivered through the design–bid–build process. As a consequence, disputes against designers and contractors on design–bid–build projects are resolved through fairly predictable legal standards, even though ultimate liability is highly dependent on the specific facts of the dispute.

Although it is beyond the scope of this digest to provide a comprehensive review of the liability issues that can arise on a construction project, it is useful to examine some basic liability concepts that affect owners, designers, and contractors. This section will review these concepts, focusing on cases arising on design–bid–build projects. Liability principles on design–build projects will follow in subsequent sections.

That said, it is helpful to begin by contrasting the design–bid–build and design–build delivery systems. Let us begin by looking at design–bid–build. Among its other attributes, design–bid–build calls for the owner to: 1) fully design the project either with its own personnel (as is often the case with state transportation agencies) or through a contract with an architect or an engineer, and 2) construct the project with a general contractor that submits the lowest bid. The general contractor is selected on the basis of low price and has no role whatsoever in the design process.[1] Moreover, although the designer and contractor interface with each other on a number of levels during construction, they do not have a direct contractual relationship.

As will be addressed in this section, liability under design–bid–build is complicated by virtue of this three-party contracting arrangement. When things go wrong, the owner generally expects that one of its two contracting parties will bear responsibility. This can pose a challenge, as it is often difficult to determine conclusively whether defective design or construction is the root cause of the problem. This determination is exacerbated by the self-interests of the designer and contractor, each of whom is incentivized to point to the other as the one who should bear responsibility. The lack of a contract between the contractor and designer also means that, in many states, a contractor is not able to sue a designer for economic damages, such as delay damages or the direct costs of correcting a defective design. Often, the result is that the owner has no recourse to either party for the consequences of the problem.

Design–build profoundly differs from design–bid–build on a number of levels. It uses a "single point of responsibility" concept, where the owner enters into a contract with an entity that has the responsibility to both design and construct the project. Because of this, the owner generally does not have a direct contract with the designer but instead contracts with a general contractor, who will have a subcontract with the designer.[2] The single point of

[1] An exception to this can be for elements of the work where the contract specifically delegates design responsibility to the contractor, as might be the case for fire protection and sheeting and shoring.

[2] This "contractor-led" design–build approach is typical of most transportation agency projects. Readers should note that there are several ways to structure a design–build entity where the designer is in direct contract with the owner. Depending on the nature of the project, some design firms serve as the prime design–build contractor and subcontract with construction contractors. In addition, some designers and contractors can enter into a joint venture to contract for design–build services, and other organizations have in-house capabilities to serve as lead designer and lead contractor for their design–build projects.

responsibility can significantly impact the treatment of design liability, as it shifts risk of design errors to the contractor (assuming it is the design–builder) and those furnishing design services to the contractor. In addition, because the contractor and designer have a contractual relationship, the designer can be directly liable to the contractor for the consequences of design defects, including delay and inefficiency claims.

In addition to being impacted by the structural aspects of the delivery system, dispute resolution is affected by several important legal principles that have evolved over time. These are addressed in the following subsections. Although the principles, and the cases giving rise to them, generally apply in the context of design–bid–build, many of them are also applicable under design–build. The liability results, however, may differ because of design–build's single point of responsibility feature.

Now let us examine some basic liability concepts that affect owners, designers, and contractors.

A. Contractor's Standard of Care

Most construction contracts, whether in the private or public sector, require the contractor to warrant to the owner that all construction work is of good quality, free from faults or defects, and in strict conformance with the contract documents. This is the case under design–bid–build as well as in design–build. If the contractor fails to comply with this warranty, it will be liable for the consequences. This could result in the owner rejecting the contractor's work and requiring it to correct the defect at its own cost. It could also result in the owner terminating the contractor for default.

Hundreds of cases involving design–bid–build cite the principle that contractors are responsible for strictly complying with the plans and specifications. The cases often arise in the context of a contractor having an interpretation that differs from the explicit terms of the contract documents and asking for a change order when it is directed to perform in strict accordance with the contract documents. They also arise in the context of an owner finding defective work during the inspection process and the parties debating about how this should be handled.

One of the most recent cases is *Appeals of James G. Davis Construction Corporation,*[3] which involved a dispute over the cost of installing insulation on segments of a building's heating, ventilation, and air conditioning (HVAC) system. The specifications included a listing of ductwork and casings to be insulated and specified "outside air ductwork, casings and plenums." The contractor claimed that under HVAC trade practice and custom, outside air (OA) ductwork is substantively supply air ductwork, which does not need to be insulated pursuant to American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) standards. The Board of Contract Appeals rejected this argument, stating:

> To the extent [the contractor] argues that we should substitute trade practice and custom for the QA ductwork requirement as written, as seems to be the case, we reject that argument. The government has the right to demand *strict compliance* with its requirements, which can vary from the norm in the trade.[4] (Emphasis added.)

The board concluded that the plain language of the specification was unambiguous, and that trade practice and custom could not be used to create an ambiguity where none existed.[5]

Although the contractor has an obligation to strictly comply with the specifications, this does not mean that the owner's only remedy is to order the removal of the defective work. The contractor typically has the right to propose a correction that will allow substantial compliance with the specifications. This occurred in *Granite Construction Company v. United States,*[6] where the contractor failed to properly install a polyvinyl chloride (PVC) waterstop in the vertical joints of a lock and dam project's concrete walls. This failure was discovered by government inspectors after 10 percent of the waterstop was permanently embedded in the walls. The contractor acknowledged its mistake and proposed several remedial methods that did not involve removal of the waterstop. All of the methods were rejected by the government, as it would accept nothing less than strict compliance with the specification.

The contractor removed and replaced the waterstop at great cost and filed a claim, and was ultimately successful in arguing that the government had been economically wasteful, with the court stating:

> We recognize that the government generally has the right to insist on performance in strict compliance with the contract specifications and may require a contractor to correct nonconforming work. …However, there is ample authority for holding that the government should not be permitted to direct the replacement of work in situations where the cost of correction is economically wasteful and the work is otherwise adequate for its intended purpose. In such cases, the government is only entitled to a downward adjustment in the contract price.[7]

The court was particularly critical of the government's failure to evaluate the quality of the waterstop that had been installed in relation to the

[3] ASBCA Nos. 58000, 58002, 2015-1 B.C.A. ¶ 35, 818; 2014 ASBCA LEXIS 396 (Nov. 19, 2014).

[4] *Id.* at 33.

[5] *Id.* at 32–33.

[6] 962 F.2d 998 (Fed. Cir. 1992).

[7] *Id.* at 1007.

project's needs. The court concluded that had the government done so, it would have discovered that the waterstop was adequate and its replacement was unnecessary.

B. The *Spearin* Doctrine

Although contractors are obligated to strictly comply with the contract documents, they are not responsible for errors in those documents. As a consequnce, if the contractor fully complies with the plans and specifications, and the project fails to meet the owner's intended purposes (e.g., pavement that prematurely ruts), the owner has no recourse against the contractor. Likewise, if it is determined during construction that the plans and specifications are defective (e.g., one element of the work conflicts with another), the owner is obligated to provide the contractor with a change order to pay for the consequences of those defects.

The legal principle behind this nearly century-old concept derives from the U.S. Supreme Court case *United States v. Spearin*.[8] The *Spearin* doctrine makes the owner liable if the detailed plans and specifications it furnishes create problems for the contractor that the contractor could not reasonably foresee. Under *Spearin*, the owner is deemed to impliedly warrant that its design documents are sufficient to construct the project and will, if followed, result in a functioning system. Stated another way, "In exchange for the right to direct specifically how a project shall be performed, the government warrants that its directions are not defective."[9]

The owner's implied warranty applies even though the owner hires a design professional to prepare the design documents and furnishes them to the contractor:

> When the Government assumes responsibility for the preparation of the plans and specifications through the use of architects and engineers of its own selection, it assumes responsibility for making the necessary engineering calculations for and assuring the correctness and soundness of the design; and the contractor is under no obligation to make his own engineering calculations for the purpose of verifying the correctness and adequacy of the Government specifications.[10]

Although the *Spearin* doctrine is based on federal government contracting principles, it has been widely adopted in state and federal courts. For example, in *Commonwealth Dep't of Transp. v. W.P. Dickerson & Son, Inc.,*[11] a Pennsylvania court found that the contractor was not liable to the Pennsylvania Department of Transportation (PennDOT) for cracked beams and was entitled to additional compensation for the extra work and expenses involved in shifting or removing the beams from the bridge and testing them. The evidence showed that PennDOT provided the contractor with detailed specifications relating to all materials to be used in the construction of the beams, as well as the composition, mixing procedures, and test requirements for the concrete. The contractor had little, if any, independent discretion in the construction of the beams, and there was no evidence that it had failed to follow the specifications. Citing *Spearin*, the court stated, "It is well established that a contractor who performs according to detailed plans and specifications is not responsible for defects in the result."[12]

For a contractor to recover under the *Spearin* doctrine, it must demonstrate that it reasonably relied upon the accuracy of the owner's design documents. If a contractor has pre-award knowledge of a defect in the specifications, it must bring this to the attention of the owner, or it will be deemed to have assumed the risk.[13] The cases featuring contractor pre-award knowledge often involve owners who specifically call out the alleged defect to the bidders, or contractors who previously worked on a project involving the same specification and defect. In reality, most of the cases addressing reasonable reliance arise in the context of whether the existence of a defect is obvious (i.e., patent) from a review of the bid package.[14] If there is an obvious defect in the documents, bidders are required to raise those defects during the bidding process or they will lose their *Spearin* rights. If the defect is not obvious (i.e., latent), then the bidder does not lose these rights.

C. Designer's Standard of Care

Many owners who face financial exposure to contractors from defective specifications believe that designers should bear the ultimate burden of this problem. It is difficult, however, for an owner to "pass-through" these claims to the designer. Although the designer is generally responsible to provide its client with a design that meets the owner's program requirements, common law does not require the designer to provide perfect performance, with a design that will be error-free.

[8] 248 U.S. 132, 39 S. Ct. 59, 63 L. Ed. 166 (1918).

[9] Concrete Placing Co. v. United States. 25 Cl. Ct. 369, 375 (Cl. Ct. 1992), *citing Spearin,* 248 U.S. at 136.

[10] *Greenhut Constr. Co., Inc.,* ASBCA 15192, 71-1 B.C.A. ¶ 8845, 1971 ASBCA LEXIS 256 (Apr. 21, 1971), at 1.

[11] 42 Pa. Commw. 359, 400 A.2d 930 (1979).

[12] *Id.* at 362, 400 A.2d at 932.

[13] *Appeal of S. Head Painting Contractor, Inc.,* ASBCA 26249, 82-2 BCA ¶ 15,886, 1982 ASBCA LEXIS 288 (July 12, 1982); Johnson Controls, Inc. v. United States, 229 Ct. Cl. 445, 671 F.2d 1312 (1982).

[14] Allied Contractors, Inc. v. United States, 180 Ct. Cl. 1057, 381 F.2d 995 (Ct. Cl. 1967).

Instead, the standard of care for performance of design services is generally defined as "the ordinary and reasonable degree of care required by a prudent professional under the circumstances."[15] Commonly referred to as the "professional negligence" standard of care, it requires a plaintiff to meet the following elements: 1) a duty owed by the designer to the plaintiff; 2) a breach of that duty by the designer; 3) a causal connection between the negligent conduct and the resulting harm; and 4) actual loss or damage caused to the plaintiff. Professional negligence can only be proven by the testimony of an expert qualified in the same field as the person or entity accused of being negligent. It is not sufficient to simply identify the problem.[16]

In design–bid–build contracts, the professional negligence standard of care is often reflected in the underlying contract between the owner and designer. For example, the Standard Form of Agreement between Owner and Engineer for Professional Services prepared by the Engineers Joint Contract Documents Committee (EJCDC) states:

> The standard of care for all professional engineering and related services performed or furnished by the Engineer under this Agreement will be the care and skill ordinarily used by members of the subject profession practicing under similar circumstances at the same time and in the same locality. Engineer makes no warranties, express or implied, under this Agreement or otherwise, in connection with Engineer's services.[17]

Even though this would be the standard if the contract were silent on standard of care, most parties include this type of clause to avoid disputes over whether the designer owed its client a higher standard.

State court cases contain century-old references to the professional negligence standard of care. In *Coombs v. Beede,*[18] the dispute involved an architect who designed a house where the bids were higher than the homeowner expected. When the homeowner refused to pay the architect's fees, the architect sued and ultimately won, as the court concluded that the architect did not guarantee that its design could be built within that expected price:

> The responsibility resting on an architect is essentially the same as that which rests upon the lawyer to his client, or upon the physician to his patient, or which rests upon any one to another where such person pretends to possess some skill and ability in some special employment, and offers his services to the public on account of his fitness to act in the line of business for which he may be employed. The undertaking of an architect implies that he possesses skill and ability, including taste, sufficient to enable him to perform the required services at least ordinarily and reasonably well; and that he will exercise and apply, in the given case, his skill and ability, his judgment and taste, reasonably and without neglect. But the undertaking does not imply or warrant a satisfactory result. It will be enough that any failure shall not be by the fault of the architect. There is no implied promise that miscalculations may not occur. An error of judgment is not necessarily evidence of a want of skill or care, for mistakes and miscalculations are incident to all the business of life.[19]

Myriad federal and state court cases apply this general standard. Designers have been found to be negligent for miscalculating loads, failing to follow code requirements, and a plethora of other matters.

Given that this digest focuses on design–build, it is instructive to review design–bid–build cases where the owner had separate design and construction contracts—instead of design-build's single point of responsibility. Consider *BPLW Architects and Engineers, Inc. v. United States,*[20] where the dispute arose from a contract the designer had with the U.S. Army Corps of Engineers to provide an underfloor piping design for two student dormitory buildings. Shortly after construction finished, below-grade piping problems occurred, resulting in flooding to several dorm units. The Corps repaired the broken pipes, replaced the entire subsurface sanitary piping system, and regraded around the dorms. It then filed a claim against the designer to recover the $7.6 million incurred for the repair.

At trial, both parties agreed that the applicable standard of care required the engineer to comply with a certain soils report when designing the piping system. The parties disagreed, however, on which sections of the report applied to the underfloor piping. Based upon the report's prediction that the soil underneath the dorms had the potential to heave over 9 in., the Corps contended that the designer was required to design a plumbing system capable of withstanding over 9 in. of heave. The designer, however, looked to different provisions of the report and contended that it was required to design a plumbing system that could accommodate only 1 in. of movement.

The court found that the designer's underfloor piping designs and grading plans failed to comply

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[15] Joseph A. Demkin, The Architect's Handbook of Professional Practice 737 (13th ed., 2001).

[16] An exception is the designer's failure to comply with building codes, which is typically considered negligence per se (i.e., no additional proof is needed). Construction Law 146 (William Allensworth, Ross J. Altman, Allen Overcash & Carol J. Patterson eds., American Bar Association Forum on the Construction Committee, 2009).

[17] Engineers Joint Contract Documents Comm., *Agreement between Owner and Engineer for Prof'l Servs.* 4 (2011).

[18] 89 Me. 187, 36 A. 104 (1896).

[19] *Id.* at 188, 36 A. at 104.

[20] 106 Fed. Cl. 521 (2012).

with the contract and the applicable standard of care. It also held, however, that the Corps was not entitled to recover its repair costs because it did not meet the third test for negligence—causal connection to the Corps' damages. In this case, there was testimony that the general contractor had not correctly performed the piping installation. Moreover, the Corps was unable to show that the contractor had constructed the grades in accordance with the designer's design, as it had no as-built data and presented no witnesses on the as-built condition of the site grading. As such, the Corps was unable to show that the negligent design led to the improper grades and pooling of water. Even if the Corps had prevailed on this, the court noted that it would have faced difficulty proving its damages, as not all were shown to be directly related to the repair work.

Another recent case illustrates the challenges that an owner faces when it is in the middle of design and construction. In a highly publicized dispute, the Tampa Bay Water authority (TBW) sued HDR Engineering, Inc., for what it alleged was HDR's negligent design of the C.W. Bill Young Regional Reservoir.[21] The problems with the reservoir arose soon after construction was completed, when large cracks were discovered in its earthen embankments. TBW filed suit against both HDR and the general contractor for approximately $140 million.

HDR's design called for the use of a geomembrane, a protective 2 ft to 3 ft layer of soil and an overlay of soil cement designed to prevent erosion of the reservoir's inner walls. The owner alleged that HDR's design was defective because it failed to account for excess pore pressure, arguing that the layer of soil between the soil cement and the geomembrane was trapping excess water and leading to the cracks. HDR defended the suit by arguing that the cracking was not caused by the soil cement being pushed up by excess pore pressure but rather by the cement's collapse. According to HDR, the protective soil layer on top of the geomembrane was too thick, too loose, and too dry in the two areas where the soil cement cracked. When the soil became saturated with water, it became denser and lost volume, causing the soil cement to collapse and crack. HDR's theory placed the blame on the contractor.

The owner made a tactical decision to blame HDR for the problem and, in doing so, settled with the contractor for a relatively nominal amount. It had anticipated that the contractor's allegedly defective work would not be raised to the jury. However, the trial court judge did not let this happen, and HDR was able to present its theory that its design met the standard of care, and that the cracking problem was caused by the general contractor's defective work. The jury returned a verdict completely exonerating HDR of liability. It was upheld by the appeals court. Ultimately, HDR was able to recover all of its legal fees (in excess of $20 million) from the owner's failed attempt to sue it.

In addition to the difficulty of proving whether the design or construction causes design problems, owners face challenges in demonstrating that the designer should have discovered defective construction work during inspection. Courts have rejected efforts to make design professionals the guarantors of the quality of construction in the absence of specific contract language requiring this. Given the professional negligence standard discussed above, most cases that have addressed a design professional's inspection obligations hold that the designer must perform a reasonable inspection given its contractual inspection of scope of work.

One of the leading cases in this area, *Moundsview Indep. School Dist. No. 621 v. Buetow and Assocs., Inc.,*[22] involved a school where, after construction was complete, portions of the roof were ripped off during a windstorm. At the time the architect was retained, it offered the owner three options regarding the level of construction supervision it would provide: 1) no supervision; 2) general supervision; or 3) continuous on-site inspection of the construction project by a full-time project representative or "clerk of the works." Moundsview elected the general supervision option, the operative clause of which expressly disavowed any liability for the contractor's failure to properly carry out the work. The clause called for the work to be inspected by the architect at intervals appropriate to the stage of construction. It also stated that the architect was not required to make an exhaustive or continuous on-site inspection.

During the 79-week construction period, the architect visited the site 90 times to perform its general supervision obligation. After the damage occurred, it was determined that the roof had not been secured by washers and nuts to the south wall of the school as required by the plans and specifications. Moundsview claimed that the architect breached its supervision obligation. In affirming the trial court's grant of summary judgment in the

[21] Tampa Bay Water v. HDR Eng'g, Inc., 731 F.3d 1171 (11th Cir. 2013). *See also* Michael C. Loulakis & Lauren P. McLaughlin, *Florida Jury Exonerates Design Engineering Firm,* 82 Civil Engineering 88 (2012), and Michael C. Loulakis & Lauren P. McLaughlin, *Federal Appeals Court Affirms Jury Award to Engineering Firm,* 84 Civil Engineering 84 (2014).

[22] 253 N.W. 2d 836 (Minn. 1977).

architect's favor, the Supreme Court of Minnesota held that:

> It is the general rule that the employment of an architect is a matter of contract, and consequently, he is responsible for all the duties enumerated within the contract of employment. …An Architect, as a professional, is required to perform his services with reasonable care and competence and will be liable in damages for any failure to do so.
>
> * * * *
>
> Moundsview cannot be allowed to gain the benefit of the more detailed "clerk-of-the-works" inspection service while in fact contracting and paying for only a general supervisory service.[23]

Other cases have adopted similar philosophies. In *Weill Constr. Co. v. Thibodeaux,*[24] the owner of an ice skating facility sued an architectural firm because water had seeped through the concrete slab and damaged the rink floor. The owner claimed that the architect had negligently supervised the construction of the work, inasmuch as the general contractor had poured the slab so as to create a horizontal cold joint through which the seepage had occurred. The court concluded that the architect had no duty to supervise the construction of the floor slabs. It looked to the potential fee that the architect would have required if it had been contracted to supervise such work.

Columbus. v. Clark-Dietz, Etc.,[25] dealt with a city's action against an engineer and contractor for damages resulting from the failure of a protective levee surrounding a wastewater treatment plant construction site. Several claims arose against the engineer as a result of the defective design. Another claim related to the failure of the engineer to discover certain construction defects. The contract between the engineer and the owner limited the engineer's duty for supervising construction to an obligation to generally observe the work and not to make continuous and exhaustive inspections. The court found that the engineer performed this contractual duty by generally overseeing construction and conducting tests with reasonable care. The court further stated that the contract did not require the engineer to inspect and verify every step of the contractor's work.

Given the above, owners often face challenges in proving that the root cause of a problem is the designer's responsibility. Even if owners are able to prove this responsibility, they face an additional challenge in demonstrating that the damages they seek flow directly from the designer's breach. In breach-of-contract actions, courts generally hold that the damages awarded should place the plaintiff in the same position it would have been had the contract been performed, but not in a better position.

Applying this principle to situations where designers have negligently omitted something from the design documents, courts require owners to pay what the omitted item would have cost had it been included in the original design.[26] The theory is that if the designer had done its work properly, the otherwise-omitted item would have been included in the design documents bid by the contractor and part of the contract price to be paid by the owner. Awarding the owner damages for this would be, in essence, letting the owner get something for free.

This general concept is called the "betterment" or "added benefit" doctrine. Its application significantly reduces the amount of damages an owner is able to obtain from a designer in an action for professional negligence. For example, in *Grossman v. Sea Air Towers, Ltd.,*[27] the structural engineer was found to have underdesigned a building deck. The court held that the owner would not be able to recover the additional construction costs associated with increasing the load capacity of the deck—i.e., the owner would have paid for these costs if the engineer had properly designed the deck.

As a result of this doctrine, the type of damages that owners are able to claim for negligent design omissions are typically limited to: 1) premiums associated with having the work done by the contractor in a noncompetitive environment; 2) remediation costs, such as the contractor having to tear out work to install the omitted work; and 3) schedule disruptions. If, however, the omission was discovered early enough, before the contractor actually performed any work that had to be removed, the consequences of the omission would be relatively minor.

The result of the professional negligence standard of care can be troubling from the project owner's perspective. By some assessments, construction cost overruns of 3 to 5 percent caused by professional errors and omissions may fall within the acceptable professional standard of care and not give rise to liability against the designer.[28] As a consequence, most owners are required to pay the

[23] *Id.* at 839.

[24] 491 So. 2d 166 (L.A. App. 1986).

[25] 550 F. Supp. 610 (N.D. Miss. 1982).

[26] Jerome V. Bales, Shamus O'Meara & Mark R. Azman, *The Betterment or Added Benefit Defense,* 26 CONSTRUCTION LAWYER 2 (2006).

[27] 513 So. 2d 686 (Fla. App. 1987).

[28] DAVID S. HATEM, KENNETH B. WALTON & DAVID H. CORKUM, *Chapter 4: Architect-Engineer Contracting,* FEDERAL GOVERNMENT CONSTRUCTION CONTRACTS (American Bar Association, 2d ed. 2010), *citing* WALLER S. POAGE, THE BUILDING PROFESSIONAL'S GUIDE TO CONSTRUCTION DOCUMENTS 40 (3d ed. 2000) (referencing National Research Council and Construction Industry Institute).

contractor to correct design errors and omissions without assurance that the error or omission arises to a level of professional negligence and will ultimately be paid by the designer.

D. Designer's Higher Standard of Care

To overcome the challenges faced in proving negligence, some owners have attempted to include contract language that holds designers to a higher standard of care than professional negligence or requires that they expressly warrant their work. A recent case shows the potential impact this can have on liability.

In *Sch. Bd. of Broward County, Florida v. Pierce Goodwin Alexander & Linville,*[29] a school board contracted with an architectural firm for major renovations to a high school. The design contract required the architect to perform its services "in compliance with any and all applicable codes, laws and ordinances."[30] It further stated that the school's chief building official (CBO) had final authority to determine the correct interpretation of all applicable building codes, statutes, and regulations.

When the preliminary design plans were submitted, the school's independent peer reviewer raised red flags with the school, believing that the fire codes required an exterior staircase as an emergency exit. The architect disagreed. The CBO initially agreed with the architect and allowed the preliminary design plans to go out for contractor bids without the staircase. Once construction commenced, the CBO determined the design plans were not code-compliant. The architect redrafted the plans, which resulted in a series of significant change orders and increased construction costs.

The school sued the architect for breach of contract, arguing that the appropriate standard of care was whether the initial plans were code-compliant. The architect contended that, so long as the final plans used for construction were code-compliant, it met its contractual obligations and, in any event, it was bound by a professional negligence standard of care. The trial court interpreted an indemnity provision in the contract as limiting any damages the school could recover to those arising from the architect's "negligent performance."[31] As such, the trial court did not permit the school to introduce evidence that the initial plans were not code-compliant. It stated that the jury should only consider whether the architect was negligent. With those instructions, the jury found that the architect did not breach the negligence standard of care.

The Court of Appeals reversed and remanded for a new trial, finding that the lower court incorrectly instructed the jury on the appropriate standard of care. This court opined that the trial court overlooked important contractual terms that assigned a "higher standard of care" to the architect—in particular, the duty to comply with all applicable laws, statutes, rules, regulations, and building codes.[32] The court held that this required the architect to deliver code-compliant design plans in each phase of its performance (not simply at the construction documents phase).

The court also revisited the trial court's interpretation of the parties' standard indemnity provision, which stated "…the [Architect] shall indemnify and hold harmless the Owner…from and against any and all liability…to the extent said losses…are caused by the [Architect's]…negligent, reckless, or intentional wrongful acts."[33] The court held that this indemnity provision was intended to apply to third-party claims, not claims between the school and architect, and did not limit the damages the school could recover to only those caused by negligence.

Although it might seem expedient for an owner to require its designer to perform to a higher standard of care, myriad issues are associated with this. Professional liability insurance covers only professional negligence claims; it does not cover "warranties" or other higher standards of care. In addition, if the contract states that the designer is held to "the highest standard of care for engineering services in the industry," what does that mean? What would the designer need to do differently to perform at the highest standard of care?

Some owners have argued that design professionals owe them an implied warranty that their designs will be fit for the intended purpose even if there is no contract clause to this effect. In *City of Mounds View v. Walijarvi,*[34] the architect was sued by its client for failing to design a watertight and damp-free facility. The City argued, among other things, that architects should be deemed, as a matter of law, to warrant that the structure, when completed in accordance with its plans, will be fit for its intended purpose. The court, in a lengthy and well-reasoned decision, rejected this argument. It first stated that the traditional professional negligence rule does not imply or warrant a satisfactory result. Then, turning to the issue of whether a higher standard of care was appropriate, the court stated that it was "not persuaded that the time has yet arrived for the abrogation of the traditional rule."[35] It asserted:

[29] 137 So. 3d 1059 (Fla. App. 2014).

[30] *Id.* at 1066.

[31] *Id.* at 1063.

[32] *Id.* at 1066.

[33] *Id.*

[34] 263 N.W.2d 420 (Minn. 1978).

[35] *Id.* at 424.

> Adoption of the city's implied warranty theory would in effect impose strict liability on architects for latent defects in the structures they design. That is, once a court or jury has made the threshold finding that a structure was somehow unfit for its intended purpose, liability would be imposed on the responsible architect in spite of his diligent application of state-of-the-art design techniques. If every facet of structural design consisted of little more than the mechanical application of immutable physical principles, we could accept the rule of strict liability which the city proposes. But even in the present state of relative technological enlightenment, the keenest engineering minds can err in their most searching assessment of the natural factors which determine whether structural components will adequately serve their intended purpose. Until the random element is eliminated in the application of architectural sciences, we think it fairer that the purchaser of the architect's services bear the risk of such unforeseeable difficulties.[36]

Another case demonstrating this point is *K.B. Weygand and Assocs. v. Deerwood Lake Land Co.,*[37] where an engineer was sued for negligence and breach of implied warranty when the road it designed failed. The cause of the failure was impermeability of the underlying soil, which enabled water to accumulate between the soil and asphalt and caused the asphalt to crack. The trial judge found that the soil condition was an unexpected differing site condition (DSC) and that the engineer was not negligent. The judge also found, however, that the engineer had impliedly warranted that its design would be suitable for its intended purpose and held it liable for the correction costs. This was overturned on appeal, as the appellate court concluded that there was no evidence that the engineer knew or should have known that the soil would not drain:

> It would be contrary to justice and fair dealing between the parties to hold a civil engineer strictly liable for a road failure where an unknown soil condition can cause the failure despite the exercise of reasonable skill and diligence in the preparation of the plans and specifications. The Deerwood road was built on Townley soil which is commonly found in Shelby County. A known characteristic of the soil is that it has a slow percolation rate, that is, water passes through it slowly. However, the failure of the road did not result from that characteristic. Instead, the road failed because the soil beneath it was wholly impervious and, therefore, would not drain at all. None of the engineers who testified had seen or heard of another similar situation.[38]

These results are generally consistent with how other courts around the country have viewed the issue of a designer owing an implied warranty on the efficacy of its design.[39]

[36] *Id*.

[37] 812 So. 2d 1165 (Ala. 2002).

[38] *Id.* at 1169.

[39] *See, e.g.,* Ryan v. Morgan Spear Assoc., Inc., 546 S.W.2d 678 (Tex. Civ. App., 1977), where a court rejected that the designer had impliedly warranted that its foundation design would be sufficient for the building's intended purpose. *See also* Allensworth, Altman, Overcash & Patterson, *supra* note 16, at 151, note 30.

E. Rights of Third Parties to Sue Designers

As noted earlier, under the design–bid–build process, the designer's contract is with the owner. Prior to 1956, designers could not be sued by anyone other than the owner, as there was a requirement that parties be in privity of contract and that the subject injury occurred in the course of that relationship.[40] Since that time, with regard to physical injury, courts around the country began recognizing that designers owed a duty of care to those third parties who were physically injured as a result of the designer's negligence, and that privity of contract was not a defense.

The issue has not been as clear with economic losses suffered or alleged by contractors, subcontractors, and others. Approximately one-half of the states allow designers to be sued by third parties for economic losses, on the grounds that designers may owe a duty of care to those third parties. The remaining states disallow this on the basis of the economic loss doctrine, which says that recovery of economic losses (e.g., delay claims, direct costs of correcting design defects, etc.) can only come from a party with whom the plaintiff is in privity of contract.

In those states that allow third parties to sue designers, the extent of liability is fairly substantial. In *Bilt-Rite Contractors, Inc. v. The Architectural Studio,*[41] a school district hired an architect to design a new school on a design–bid–build basis. Shortly after construction started, the contractor discovered that the project design, which included an aluminum curtain wall, sloped glazing, and metal support systems, could not be installed using standard construction techniques. The contractor sued the architect on the theory of negligent misrepresentation, claiming that its specifications were false and misleading.

The architect successfully argued to the trial court that the contractor's claims were barred by the economic loss doctrine and that the architect owed no duty to the general contractor. The state's highest court reversed the decision, finding that a design professional could reasonably expect contractors to rely on information supplied in project design documents. It also found that it was foreseeable that contractors could incur economic losses if the design information was flawed or defective. The court noted that economic losses resulting from negligent misrepresentation were considered a well-recognized exception to the economic loss doctrine, and that it would not bar a contractor's recovery against an architect for misrepresentation.

[40] American Institute of Architects, the Architect's Handbook of Professional Practice 30 (15th ed. 2013).

[41] 581 Pa. 454, 866 A.2d 270 (2005).

The rights to sue go beyond design services alone. They also relate to the designer's other activities. In *Shoffner Indus., Inc. v. W.B. Lloyd Constr. Co.,*[42] the court found that a contractor had a right of action against the design professional for negligence in approving the work of a supplier who furnished defective trusses. The plaintiff alleged that the architect had inspected and approved the trusses before they were incorporated into the roof structure and that the contractor had relied on that approval. The contractor further argued that the architect, as an expert, should have known that the trusses were defective and not installed in a workmanlike manner. In rejecting the architect's argument that it did not owe a duty of care to the contractor, the court stated:

> The [architect] here entered upon performance of an undertaking and, by doing so, entered into a relationship with the contractor and others giving rise to a duty to those who must reasonably rely upon his professional performance. The arrangement presented here of an architect having general supervisory responsibility over the contractor and other subcontractors on a construction project of this nature is a normal one in this commercial age. Each of the various participants must, to some degree, rely upon the professional performance of the other and each therefore has the responsibility of performing his task with due care. Clearly, the incidental fact of the existence of the contract between the architect and the property owner should not negative [sic] the responsibility of the architect when he enters upon a course of affirmative conduct which may be expected to effect the interest of third parties.[43]

As a result, the case was reversed and remanded for retrial on the merits as to whether the architect breached its duties of supervision and inspection.

Another activity related to contract administration is the use of items considered to be the "equals" to those specified in the contract documents. Consider *Waldinger Corp. v. CRS Group Eng'r, Inc.,*[44] which involved an action by a mechanical contractor against an engineer on a wastewater treatment facility. The mechanical contractor claimed that the engineer was negligent in drafting restrictive specifications for filter presses required on the project. The specifications for these presses detailed performance capabilities and mechanical components, which the mechanical contractor's original supplier believed it could meet. The engineer refused to accept the original supplier's product and insisted that another supplier be used.

The trial court concluded that the engineer intentionally prepared exclusionary specifications and insisted without justification that the original supplier and mechanical contractor comply literally with the specifications. It further found that only one manufacturer could literally comply with the specifications as interpreted by the engineer and that the engineer intended to use such equipment in disregard of the U.S. Environmental Protection Agency's requirements for free and open competition.

A similar issue arose in *Waldor Pump and Equip. Co. v. Orr-Schelen-Mayeron & Assoc., Inc.,*[45] where the engineer prepared specifications for a municipal project and rejected Waldor's pumps as not conforming to the specifications. As a result, Waldor brought an action against the engineer alleging negligence in drafting and interpreting the specifications.

The project specifications required that the general contractor supply eight sludge pumps and that they be "self-priming" and use a "coil spring." Waldor claimed that the only functional purpose of a coil spring was to render the pump self-priming and that the salient characteristic of the pump was that it was "self-priming." The trial jury agreed and found the engineer to be negligent, having violated the municipal public bidding laws regarding restrictive specifications. The appellate court affirmed the judgment of the trial court and concluded that the engineer would be liable in negligence to Waldor, a third party who foreseeably relied upon the engineer's professional obligation to reasonably draft and interpret the project specifications.

III. DESIGN–BUILD CONTRACT CLAUSES AFFECTING LIABILITY

One of the most important functions of any contract is to address what happens if something goes wrong. This section provides an overview of five topics commonly addressed in transportation-related design–build contracts that will affect liability for design, construction, and acquisition issues: 1) disclaimers associated with owner-furnished information, 2) design development, 3) standard of care and warranty, 4) indemnification, and 5) limitations of liability.[46] Section VI discusses some of the common disputes associated with these topics and how courts and boards of contract appeals have resolved those disputes.

To illustrate the type of contract language used on the topics in this section, this digest cites to provisions taken from specific contracts. Unless stated otherwise, these provisions are not presented as being representative of the transportation agency's

[42] 42 N.C. App. 259, 257 S.E.2d 50 (1979).

[43] *Id.* at 272, 257 S.E.2d at 59.

[44] 775 F.2d 781 (7th Cir. 1985).

[45] 386 N.W.2d 375 (Minn. Ct. App. 1986).

[46] Although many other contract clauses affect liability—such as safety, site inspection, and environmental remediation—the topics addressed in this section were chosen because they create some unique concerns and challenges under design–build relationships. Right-of-way acquisition contract issues will be addressed in Section V.

philosophy relative to this issue on all of its projects. Readers should further note that design–build contracts are lengthy and often contain multiple cross-references among clauses. As a consequence, the ultimate contractual intent and interpretation of a provision may be influenced by other language in the contract.

A. Disclaimers of Responsibility for Owner-Furnished Information

Owners typically provide a substantial amount of information to proposers during the design–build procurement process, including geotechnical reports, site and survey data, and preliminary design information. Consistent with their approach on design–bid–build and other project delivery systems, most owners attempt to absolve themselves from liability for such information. They do this by using contractual disclaimers that, among other things, warn bidders that their use of such information is "at their own risk," "without any liability to the owner," and that the bidder "should independently determine the accuracy of the information."

On design–bid–build procurements, it is common to see these types of disclaimers used for geotechnical reports, as-built drawings, and other background and reference information. On design–build procurements, disclaimers are used not only for background and reference information but also for the preliminary design documents provided by owners as part of the Request for Proposals (RFP).

An example of how disclaimers are used is found in the following excerpts from the design–build contract released by Washington State Department of Transportation (WSDOT) on its State Route (SR) 99 Alaskan Way Viaduct Replacement Project.[47] This contract makes it clear that, except for some limited exceptions, 1) reference documents are informational and will not form a basis for a claim by the design–builder; and 2) the design–builder is not entitled to a change order for errors in the conceptual documents provided as part of the RFP. Section 3.1.2 (Obligation to Correct Errors) states:

> Design–Builder agrees that it has full responsibility for the design of the Project, regardless of the fact that certain conceptual design work occurred and was provided to Design–Builder prior to the date of execution of the Contract. Design–Builder specifically acknowledges and agrees that:
>
> (a) Design–Builder is not entitled to rely on and has not relied on (i) the Reference Documents or (ii) any other documents or information provided by WSDOT, except to the extent specifically permitted in the Contract Documents.
>
> (b) The Conceptual Design, including the Basic Configuration, is preliminary and conceptual in nature, may contain errors, and may not be suitable as the basis for the final design.
>
> (c) Design–Builder is responsible for providing Released for Construction Documents that comply with the requirements of the Contract Documents, regardless of any errors, omissions, deficiencies or other defects in the Conceptual Design, without any increase in compensation or extension of a Completion Deadline, subject only to the right to a Change Order for Necessary Basic Configuration Changes.

Section 3.3 (Reference Documents)[48] reinforces these disclaimers by stating, in relevant part:

> …Design–Builder understands and agrees that WSDOT shall not be responsible or liable in any respect for any loss, damage, injury, liability, cost or cause of action whatsoever suffered by any DB-Related Entity by reason of any use of any information contained in the Reference Documents or any action or forbearance in reliance thereon, except to the extent that WSDOT has specifically agreed herein that Design–Builder shall be entitled to an increase in its compensation and/or extension of a Completion Deadline with respect to such matter. Design–Builder further acknowledges and agrees that (a) if and to the extent Design–Builder or anyone on Design–Builder's behalf uses any of said information in any way, such use is made on the basis that Design–Builder, not WSDOT, has approved and is responsible for said information, and (b) Design–Builder is capable of conducting and obligated hereunder to conduct any and all studies, analyses and investigations as it deems advisable to verify or supplement said information, and that any use of said information is entirely at Design–Builder's own risk and at its own discretion.[49]

On WSDOT's Interstate 405 (I-405)/Northeast 6th Street to Interstate 5 (I-5) Widening and Express Toll Lanes Project, it articulated the design–builder's responsibility for design work as follows:

> It is the intent of the Contract Documents that Design–Builder undertake full responsibility for delivery of the Project. The Contract Documents do not provide details of the design necessary to carry out the intent of the Contract Documents. Such detailed designs are the sole responsibility of the Design–Builder to develop. If the Contract Documents omit or mis-describe the Work necessary to be performed in order to deliver the Project in accordance with the intent of the Contract Documents and the standards and criteria for performance of the Project, the Design–Builder

[47] SR 99 Bored Tunnel Alternative Design–Build Project Request for Proposal, Washington State Dep't of Transp. (2010), *available at* http://www.wsdot.wa.gov/biz/contaa/DESIGNBUILDCONTRACTS/SR99AWVBoredtunnel/WSDOTAWVDBContractAppendices5.25.10.pdf (last visited June 29, 2015).

[48] This contract defined the term "Reference Documents" to include Geotechnical Memoranda for Design, which were defined as those Reference Document(s) "providing an interpretation of available geologic data that shall not be used to determine differing site conditions, resolve contractual disputes, or in any way interpret the contract, intents, or obligations of the parties."

[49] SR 99 Bored Tunnel Alternative Design–Build Project Request for Proposal Section 3.3, Washington State Dep't of Transp. (2010), *available at* http://www.wsdot.wa.gov/biz/contaa/DESIGNBUILDCONTRACTS/SR99AWVBoredtunnel/WSDOTAWVDBContractAppendices5.25.10.pdf (last visited June 29, 2015).

> shall not be excused from performing such omitted Work (no matter how extensive) or mis-described details of the Work, and such Work shall be performed as if fully and correctly set forth and described in the Contract Documents, without entitlement to a Change Order hereunder except as specifically allowed by the Contract Documents. Design–Builder specifically acknowledges and agrees that:
>
> (a) The Conceptual Design is preliminary and conceptual in nature and has not been signed or sealed.
>
> (b) The Design–Builder is responsible for correcting any errors, omissions, inconsistencies and other defects in the Conceptual Design through the design and/or construction process. There will be no increase in the Contract Price or extension of the Contract Time for correcting any errors, omissions, inconsistencies and other defects in the Conceptual Design, except as provided herein with respect to Necessary Basic Configuration Changes.[50]

Texas Department of Transportation (TxDOT) offers a similar provision on its Loop 1604 Western Extension Project. This design–build contract has several clauses that shift risk away from TxDOT relative to liability for reference documents and the RFP's preliminary design information.[51] For example, Section 1.7 (Reference Information Documents) states as follows:

> 1.7.1 TxDOT has provided and disclosed the Reference Information Documents to DB Contractor. Except as provided in Section 1.2.3: (a) the Reference Information Documents are not mandatory or binding on DB Contractor, and (b) DB Contractor is not entitled to rely on the Reference Information Documents as presenting design, engineering, operating or maintenance solutions or other direction, means or methods for complying with the requirements of the DBA Documents, Governmental Approvals or Law.
>
> 1.7.2 TxDOT shall not be responsible or liable in any respect for any causes of action, claims or Losses whatsoever suffered by any DB Contractor-Related Entity by reason of any use of information contained in, or any action or forbearance in reliance on, the Reference Information Documents, except any schedule or monetary relief available hereunder as set forth in Section 13 of this DBA.[52]

The definition for "Reference Information Documents" states that such documents were provided to the design–builder "for informational purposes only and without representation or warranty by TxDOT." Importantly, Section 3.3 (Responsibility for Design), reinforces that the design–builder is, with certain limited exceptions, unable to rely upon the design documents furnished by TxDOT with the RFP:

> DB Contractor agrees that it has full responsibility for the design of the Project and that DB Contractor will furnish the design of the Project, regardless of the fact that prior to the date of the execution of this DBA certain conceptual design work occurred and was provided to DB Contractor as part of the Schematic Design as a preliminary basis for DB Contractor's design. DB Contractor specifically acknowledges and agrees that:
>
> (a) DB Contractor is not entitled to rely on: (i) the Schematic Design except as specified in Section 3.3.2, (ii) the Reference Information Documents, or (iii) any other documents or information provided by TxDOT, except to the extent specifically permitted in the DBA Documents.
>
> (b) DB Contractor is responsible for correcting any Errors in the Schematic Design through the design and/or construction process without any increase in the Price or extension of a Completion Deadline, subject only to the right to a Change Order with respect to Necessary Basic Configuration Changes to the extent permitted by Section 13.8.5.
>
> (c) TxDOT's liability for Errors in the Schematic Design is limited to its obligations relating to Necessary Basic Configuration Changes as set forth in Section 2.1.3.3 and provision of access to parcels within the Schematic ROW limits, and is subject to the requirements and limitations of Section 13.[53] The foregoing shall not be deemed to limit TxDOT's obligations with respect to Differing Site Conditions as set forth in Section 13.8.

This contract contains a specific disclaimer that reinforces the notion that (with some limited exceptions) the design-builder is unable to claim for damages caused by defective owner-furnished information. Section 3.4 (Disclaimer) reads as follows:

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[50] I-405/NE 6th St. to I-5 Widening and Express Toll Lanes Project Request for Proposal Section 1-02.1, Washington State Dep't of Transp. (2011), *available at* http://www.wsdot.wa.gov/biz/contaa/DESIGNBUILDCONTRACTS/NE%206TH%20ST%20TO%20I-5/RFP%20CHAPTER%201.pdf (last visited June 29, 2015).

[51] Loop 1604 Western Extension Project Design–Build Agreement Request for Proposals, Texas Dep't of Transp. (2013), *available at* http://ftp.dot.state.tx.us/pub/txdot-info/sat/loop1604_western/rfp/addendum4/dba-addendum4.pdf (last visited June 29, 2015).

[52] *Id.* § 1.7.

[53] Section 2.1.3.3 of the Contract explains the limited remedy that the design–builder has in the event TxDOT's schematic design has errors:

> DB Contractor shall be responsible for any cost increases and/or delays which affect the duration of a Critical Path resulting from changes in requirements and obligations of DB Contractor relating to the Project due to inaccuracies in the Schematic Design. Notwithstanding the foregoing, DB Contractor shall be entitled to a Change Order to account for any additional costs incurred as a result of required modifications to any Environmental Approval due to any Hazardous Materials Management on and any additional Utility Adjustment Work on Additional Properties required due to a Necessary Basic Configuration Change to the extent set forth in Section 13.8.5. Further, any right, title or interest in real property DB Contractor must acquire as a result of such Necessary Basic Configuration Change shall be considered Additional Properties, and TxDOT shall be responsible for the purchase price therefor. Any changes in the Basic Configuration, including a Necessary Basic Configuration Change due to an Error in the Schematic Design that does not require the acquisition of Additional Properties, shall be the responsibility of DB Contractor with the exception of a TxDOT-Directed Change involving more than $10,000 in additional direct costs or involving a delay to a Critical Path.

> DB Contractor understands and agrees that TxDOT shall not be responsible or liable in any respect for any Losses whatsoever suffered by any DB Contractor-Related Entity by reason of any use of any information contained in the Schematic Design or Reference Information Documents, or any action or forbearance in reliance thereon, except to the extent that TxDOT has specifically agreed in Section 13 that DB Contractor shall be entitled to an increase in the Price and/or extension of a Completion Deadline with respect to such matter. DB Contractor further acknowledges and agrees that: (a) if and to the extent DB Contractor or anyone on DB Contractor's behalf uses any of said information in any way, such use is made on the basis that DB Contractor, not TxDOT, is responsible for said information, and (b) DB Contractor is capable of conducting and obligated hereunder to conduct any and all studies, analyses and investigations as it deems advisable to verify or supplement said information, and that any use of said information is entirely at DB Contractor's own risk and at its own discretion.

The preceding clauses are examples of the competing goals that occur when an agency attempts to broadly disclaim responsibility for information it provides during the bidding process. Although the agency's primary goal is to avoid claims arising from this information, its secondary goals are to encourage marketplace competition and avoid excessive bid contingencies. As a consequence, even the most one-sided contractual disclaimers generally provide design–builders with some limited relief for differing site conditions and major changes in alignment from that shown in the RFP design. This can lead to confusion, as the contract may not clearly establish what remedies are available to the design–builder for errors in owner-furnished information.

As discussed in detail in Section VI, there is some question as to whether the type of disclaimers discussed in this section are enforceable. Substantial design–bid–build case law supports the view that broad disclaimers of geotechnical information are generally not effective, particularly when the disclaimer is in direct conflict with the purpose and language of a differing site conditions clause.[54] Those cases that have enforced the disclaimers generally have done so when the disclaimer is narrowly drafted to cover only specific site conditions.[55]

Confronted with any major flaw in the owner's RFP documents that increases their time or cost of performance, design–builders will almost certainly argue that the disclaimers should not be construed to shift the consequences of these flaws away from the owner. If the owner disagrees, an impasse will develop and relations will likely be negatively impacted. Although only a few of these disputes have resulted in reported decisions, the case law to date has generally found in favor of the design–builder, as discussed in Section VI.

The Virginia Department of Transportation (VDOT) has developed a thoughtful way to address this issue. VDOT recognized that if the risk of defective owner-furnished information was shifted to the design–builder, design–build proposal prices would be higher because bidders would put in contingencies to cover this risk. Because of the uncertainty over whether a court would enforce the disclaimer, however, VDOT believed it could still be obligated to pay the design–builder if the risk materialized, and relations on the project could be jeopardized.

VDOT decided to confront this issue directly by balancing its need for effective risk transfer and price certainty with the reality that pre-award disclaimers may not be fair to design–build proposers or enforceable. VDOT's process is called "scope validation." It establishes a period of time ("scope validation period") where the design–builder can, during the design development process, present claims that relate to deficiencies in owner-furnished information. The scope validation period is generally 120 days after contract award, although this can be adjusted for more complicated projects. After the end of the scope validation period, the design–builder's claim rights are waived for items not previously raised. VDOT's standard design–build contract template now includes the following clause:[56]

> 2.2 *Scope Validation and Identification of Scope Issues*
>
> 2.2.1 *Scope Validation Period.* The term "Scope Validation Period" is the period of time that begins on Design–Builder's receipt of Department's Notice to Proceed and extends for one hundred twenty (120) days from such date of receipt, unless otherwise stated in Exhibit 1. During the Scope Validation Period, Design–Builder shall thoroughly review and compare all of the then-existing Contract Documents, including without limitation the RFP Documents and the Proposal, to verify and validate Design–Builder's proposed design concept and identify any defects, errors, or inconsistencies in the RFP Documents that affect Design–Builder's ability to complete its proposed design concept within the Contract Price and/or Contract Time(s) (collectively referred to as "Scope Issues"). The term "Scope Issue" shall not be deemed to include items that Design–Builder should have reasonably discovered prior to the Agreement Date.

[54] Douglas D. Gransberg & Michael C. Loulakis, Geotechnical Information Practices in Design–Build Projects (National Cooperative Highway Research Program Synthesis 429, Transportation Research Board, 2012) *available at* http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_429.pdf (last visited June 29, 2015), referencing Michael C. Loulakis, B. P. Waagner, & H. C. Splan, *Differing Site Conditions in* Construction Claims Deskbook (John Wiley & Sons, Inc., 1996).

[55] *Id.*

[56] VDOT Design–Build, Innovative Project Delivery Division, Design–Build Standard Template Documents, Part 4, General Conditions of Contract between Department and Design–Builder (2010) (hereinafter VDOT Design–Builder General Conditions) *available at* http://www.virginiadot.org/business/resources/ipd/2010_TemplateDocuments_100511.pdf (last visited June 29, 2015).

2.2.2 *Scope Validation Period for Non-Accessible Areas of the Site.* The Parties recognize that Design–Builder may be unable to conduct the additional geotechnical evaluations contemplated by Section 4.2.2 below because it will not have access to certain areas of the Site within the Scope Validation Period set forth in Section 2.2.1 above. Design–Builder shall notify Department at the meeting set forth in Section 2.1.2 of all such non-accessible areas and the dates upon which such areas are expected to become accessible. If Department agrees that such areas are non-accessible, then, for the limited purpose of determining Scope Issues that directly arise from geotechnical evaluations for such areas, the term "Scope Validation Period" shall be deemed to be the thirty (30) day period after the date the specified area becomes accessible for purposes of conducting the geotechnical evaluation.

2.2.3 *Submission Requirements for Scope Issues.* If Design–Builder intends to seek relief for a Scope Issue, it shall promptly, but in no event later than the expiration of the Scope Validation Period, provide Department in writing with a notice ("General Notice") of the existence of such Scope Issue, which General Notice shall generally explain the basis for such Scope Issue. Within twenty-one (21) days of the General Notice of a Scope Issue, Design–Builder shall provide Department with documentation that specifically explains its support for the Scope Issue ("Supporting Documentation"), which Supporting Documentation shall include, among other things: (a) the assumptions that Design–Builder made during the preparation of its proposal that form the basis for its allegation, along with documentation verifying that it made such assumptions in developing its proposal; (b) an explanation of the defect, error or inconsistency in the RFP Documents that Design–Builder could not have reasonably identified prior to the Agreement Date: and (c) the specific impact that the alleged Scope Issue has had on Design–Builder's price and time to perform the Work. For the avoidance of doubt: (1) Design–Builder shall not be entitled to raise in its Supporting Documentation any Scope Issues that were not previously addressed in a General Notice; and (2) Design–Builder shall have no right to seek any relief for any Scope Issues that have not been specifically identified in a General Notice provided to Department during the Scope Validation Period.

2.2.4 *Resolution of Scope Issues.* Within a reasonable time after Department's receipt of the Supporting Documentation described in the Section 2.2.3 above, the Parties shall meet and confer to discuss the resolution of such Scope Issues. If Department agrees that Design–Builder has identified a valid Scope Issue that materially impacts Design–Builder's price or time to perform the Work, a Work Order shall be issued in accordance with Article 9 hereof. If Department disagrees that Design–Builder has identified a valid Scope Issue that materially impacts Design–Builder's price or time to perform the Work, then Design–Builder's recourse shall be as set forth in Article 10. Notwithstanding anything to the contrary in the Contract Documents or as a matter of law, Design–Builder shall have the burden of proving that the alleged Scope Issue could not have been reasonably identified prior to the Agreement Date and that such Scope Issue materially impacts its price or time to perform the Work.

2.2.5 *Design–Builder's Assumption of Risk of Scope Issues.* The Parties acknowledge that the purpose of the Scope Validation Period is to enable Design–Builder to identify those Scope Issues that could not reasonably be identified prior to the Agreement Date. By executing this Agreement, Design–Builder acknowledges that the Scope Validation Period is a reasonable time to enable Design–Builder to identify Scope Issues that will materially impact Design–Builder's price or time to perform the Work. After the expiration of the Scope Validation Period, with the sole exception of those Scope Issues made the subject of a General Notice during the Scope Validation Period and subject to valid requests for Work Orders in accordance with Section 2.2.3 above, the Parties agree as follows:

.1 Design–Builder shall assume and accept all risks, costs, and responsibilities of any Scope Issue arising from or relating to the Contract Documents, including but not limited to conflicts within or between the RFP Documents and Proposal;

.2 Design–Builder shall be deemed to have expressly warranted that the Contract Documents existing as of the end of the Scope Validation Period are sufficient to enable Design–Builder to complete the design and construction of the Project without any increase in the Contract Price or extension to the Contract Time(s); and

.3 Department expressly disclaims any responsibility for, and Design–Builder expressly waives its right to seek any increase in the Contract Price or extension to the Contract Time(s) for, any Scope Issue associated with any of the Contract Documents, including but not limited to the RFP Documents.

2.2.6 *Waiver of Rights.* The failure of Design–Builder to meet the submission requirements required under Section 2.2.3 above for a Scope Issue, including but not limited to the times for providing notice and documentation of the Scope Issue, shall conclusively constitute a waiver of Design–Builder's rights to seek relief for such Scope Issue.

To date, VDOT has experienced a number of scope validation claims on its design–build projects, including inaccurate survey information on a railroad line and subsurface conditions that differ from those in the RFP documents. There has yet to be any litigation arising out of this clause that is the subject of a reported decision, although there is at least one dispute that is at the formal dispute resolution stage.

The American Association of State Highway and Transportation Officials (AASHTO) *Guide for Design–Build Procurement* (2008) notes that the approach used by VDOT has also been used by other agencies:

> Some agencies, including the U.S. Army Corps of Engineers, use a contractual scope validation period. With such provisions, the agency retains the risks of differing site conditions/changed conditions until the design–builder has had the appropriate opportunity to validate the information provided in the request for proposals and to further define the scope of the project. The risks of differing site conditions/changed conditions are then shifted to the design–builder following such scope validation period. It is suggested that agencies conduct initial investigations necessary

to prepare an appropriate scope, schedule and price estimate for the work.[57]

VDOT's original (2006) scope validation clause is included as an example in the Guide.[58]

B. Design Development

Among the most important and unique features of a design–build contract are the provisions addressing the design development process. These provisions not only serve as a contract administration guideline for the parties, but also have legal implications relative to the potential transfer of liability to the owner of design deficiencies. This section will discuss some typical clauses that address these issues. Section VI's case law review offers several reported decisions that elaborate on the rights and responsibilities of the parties during design development.

1. Impact of Owner's Involvement in Design Review

A common concern of owners is that their involvement in the design review process could shift liability away from the design–builder if there is a flaw in the design. To address this issue, most design–build contracts include a clause similar to the following example from VDOT's standard design–build contract, which attempts to absolve the owner from liability for design errors:

> Department's review, comment and/or approval of interim design submissions and the Construction Documents are for the purpose of establishing Design–Builder's compliance with the requirements of the Contract Documents and mutually establishing a conformed set of Contract Documents compatible with the requirements of the Work. Department's review, comment and/or approval of any interim or final design submission (including but not limited to the Construction Documents) shall not be deemed to transfer any liability from Design–Builder to Department.[59]

This clause is virtually identical to those sponsored by the Design–Build Institute of America (DBIA) and EJCDC.[60]

Because the design–builder is the designer-of-record, and the owner performs only a review function, it would seem inappropriate to implicate the owner if the design contained calculation errors (e.g., undersized structural elements) or other details that are not readily observable. The answer might be different if the drawings specifically showed the design–builder's interpretation of a design element (e.g., location of stairways that are compliant with code but not compliant with the RFP's design documents), and the owner did not object to this element during the design review. The case law discussed in Section VI seems to support these views.

Contract documents often contain a clause that requires the design–builder to develop a design that meets the requirements of the contract. Consider the following clause from the Tappan Zee Hudson River Crossing Project design–build contract:

> It is the Design–Builder's sole responsibility to provide Design Plans, Project Specifications and Working Plans enabling development of a finished product in accordance with the Contract requirements. The Design–Builder shall verify pertinent dimensions in the field prior to the development and preparation of Design Plans, Project Specifications and Working Plans. Review and/or approval of the Design–Builder's Design Plans, Project Specifications and/or Working Plans by the Agencies shall not relieve the Design–Builder of the responsibility for the completion of the Work in accordance with Contract requirements.[61]

The TxDOT Loop 1604 Western Extension Project discussed in the preceding section has similar language:

> DB Contractor agrees that it has full responsibility for the design of the Project and that DB Contractor will furnish the design of the Project, regardless of the fact that prior to the date of the execution of this DBA certain conceptual design work occurred and was provided to DB Contractor as part of the Schematic Design as a preliminary basis for DB Contractor's design.[62]

This design responsibility is also contained in indemnity clauses, as is evident from the WSDOT Alaskan Way Viaduct Replacement Project clause set forth in Section D later in this section.

Note that these clauses address a very different issue from that of a design–builder discovering errors during the design development process, correcting the errors, and then seeking recovery for the consequences of the errors. As discussed in Section VI, there is case law favoring the design–builder in

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[57] AASHTO, AASHTO GUIDE FOR DESIGN–BUILD PROCUREMENT 33 (2008).

[58] *Id.*, App. C, Example 18.

[59] VDOT Design–Builder General Conditions.

[60] *See, e.g.,* DBIA Standard Form of General Conditions of Contract Between Owner and Design–Builder § 2.4.3 (2d ed. 2010):

> Owner's review and approval of interim design submissions, meeting minutes, and the Construction Documents is for the purpose of mutually establishing a conformed set of Contract Documents compatible with the requirements of the Work. Neither Owner's review nor approval of any interim design submissions, meeting minutes, and Construction Documents shall be deemed to transfer any design liability from Design–Builder to Owner.

[61] Tappan Zee Hudson River Crossing Project, DB Contract Documents Part 2, Addendum No. 9, § DB-111-0, New York State Thruway Authority (2012).

[62] Loop 1604 Western Extension Project Design–Build Agreement Request for Proposals, § 3.3.1, Texas Dep't of Transp. (2013), *available at* http://ftp.dot.state.tx.us/pub/txdot-info/sat/loop1604_western/rfp/addendum4/dba-addendum4.pdf (last visited June 29, 2015).

these circumstances, notwithstanding disclaimer language. The intent of the preceding clauses is to ensure that the design–builder can stand behind the design it develops as meeting the contract's requirements. Given that the design–builder is responsible for the efficacy of the design, the design–builder would likely have difficulty in claiming that it developed its design based on the owner's defective RFP or preliminary design, as might be the case if the preliminary design had a code or permit violation and the design–builder failed to verify that its design was code or permit compliant. The authors are unaware of any case precedent where the design–builder has ever prevailed on this argument.

C. Standard of Care and Warranty

Two major, interrelated topics in any design–build contract pertain to the design–builder's standard of care and its warranty on that performance. Although warranty clauses are typical for any construction contract, these warranties generally relate to the contractor's obligations to furnish 1) materials and equipment that are new; and 2) construction that is of good quality, in conformance with the contract documents, and free of defects in materials and workmanship. As discussed in Section II, a contractor working on a design–bid–build project does not warrant that its work will meet the owner's needs, as it has no responsibility for the design. As also discussed in Section II, a designer does not warrant that its work will meet the owner's needs either—it simply agrees to provide a design that meets the ordinary industry standard of care.

Design–build contracts offer an owner an ability to shift greater responsibility to the design–builder than it can under other delivery systems. Although standard form contracts developed by trade and professional associations (e.g., American Institute of Architects (AIA), EJCDC) express this in different ways, they all have separate design and construction standards of care and do not expressly have warranties that cover design. For example, DBIA's standard of care for design services states, "The standard of care for all design professional services performed to execute the Work shall be the care and skill ordinarily used by members of the design profession practicing under similar conditions at the same time and locality of the Project."[63]

As noted in Section II, this standard is no different than what one might expect from a designer on a typical design–bid–build project. DBIA, however, offers the owner an ability to require a higher standard of care if performance specifications are used, based on the following "check-box option" in the contract, "Notwithstanding Section 2.3.1 of the General Conditions of Contract, if the parties agree upon specific performance standards in the Basis of Design Documents, the design professional services shall be performed to achieve such standards."[64]

By exercising this "check-box option," an owner would eliminate a design–builder's potential argument that its failure to meet an agreed-upon performance standard was caused by the need for a design that was higher than the "ordinary" design standard of care. As discussed in Section VI, the language from DBIA's "check-box option" was specifically used to hold the design–builder liable for breaching its performance obligations to the owner in *Appeal of ECC, International*.[65]

As for warranty, the DBIA does not specifically call for the design–builder to warrant the design, but only requires that it warrant construction-related services:

> Design–Builder warrants to Owner that the construction, including all materials and equipment furnished as part of the construction, shall be new unless otherwise specified in the Contract Documents, of good quality, in conformance with the Contract Documents and free of defects in materials and workmanship. Design–Builder's warranty obligation excludes defects caused by abuse, alterations, or failure to maintain the Work in a commercially reasonable manner. Nothing in this warranty is intended to limit any manufacturer's warranty which provides Owner with greater warranty rights than set forth in this Section 2.9 or the Contract Documents. Design–Builder will provide Owner with all manufacturers' warranties upon Substantial Completion.[66]

Design–build contracts developed by state transportation agencies widely vary in terms of how they express standards of care and warranty on design services. VDOT's approach broadens the standard of care by requiring that the work (which includes design services) be performed to the greater standards required by the contract documents, applicable law, and the "ordinary" standard of care:

> Design–Builder shall perform the Work in accordance with: (a) the Contract Documents; (b) applicable Legal Requirements and Governmental Approvals; and (c) the degree of skill and judgment prevailing on the Agreement Date that is expected to be exercised by prudent, skilled and experienced contractors and design professionals on similar projects in the Commonwealth of Virginia, taking into

[63] DBIA Standard Form of General Conditions of Contract Between Owner and Design–Builder, Art. 2, § 2.3.1, Document 535 (2d ed. 2010).

[64] DBIA Standard Form of Agreement Between Owner and Design–Builder—Lump Sum Section, Art. 11, § 11.1, Document 530 (2d ed. 2010).

[65] ASBCA No. 55781, 2013-1 B.C.A. ¶ 35207, 2012 ASBCA LEXIS 106 (Dec. 28, 2012).

[66] DBIA, Standard Form of General Conditions of Contract Between Owner and Design–Builder, Art. 2, § 2.9.1, Document 535 (2d ed. 2010).

> consideration safety, operational requirements, level of service, and life cycle costs. Notwithstanding the above, if any of (a), (b) or (c) in the preceding sentence conflict, Design–Builder shall be obligated to perform the Work in accordance with the more stringent standard.[67]

VDOT's warranty provision is essentially identical to the DBIA clause cited above and does not address design whatsoever.

Contrast this with WSDOT's warranty clause on the I-405/Northeast 6th Street to I-5 Widening and Express Toll Lanes Project, where the design–builder provided a comprehensive warranty associated with the project's design:[68]

> The following general Warranty is in addition to any express Warranties provided for elsewhere in the Contract Documents. The Design–Builder shall represent and warrant the following:
>
> • All design work performed pursuant to the Contract, including work performed by Subcontractors and manufacturers, conforms to all professional engineering principles generally accepted as industry standard in the state of Washington.
>
> • The Project is free of defects, including design errors, omissions, inconsistencies, and other defects.
>
> • Materials, plants, and equipment furnished under the Contract are of good quality, and were new when installed, unless otherwise approved by WSDOT.
>
> • The work meets all of the requirements of the Contract.
>
> • The specifications and/or drawings selected or prepared for use during construction are appropriate for their intended use.
>
> • The Project has been constructed so that it can be used for the intended function.

These warranties impose substantially more liability on the design–builder than the VDOT example, as they require that: 1) the project be free of defects, and 2) the specifications and drawings be appropriate for their intended purpose.

Warranties such as those required in the WSDOT example have the potential for creating a strict liability standard on the design–builder, where it will be responsible for any problem, even if it followed industry design standards and the contract documents. This has the potential to trigger specific remedies for the benefit of the owner—such as the right to terminate the design–builder for default and the award of attorney's fees. It can also create some major challenges for designers working on design–build teams. It would not be unusual for terms like this to be "flowed-down" in the designer's subcontract so that the warranty becomes the designer's obligation.

D. Indemnification

Indemnification clauses obligate one party to compensate another party for losses or damages set out in the indemnity provision. Because this obligation is separate and distinct from other contractual obligations and damages, it is among the most important liability-related provisions in any contract, including design–build contracts. In addition, because most indemnity clauses require the indemnitor to 1) defend the indemnified party from third party claims, and 2) pay the indemnified party's legal fees, it can have major financial consequences on the indemnitor if something goes wrong.

Design–build contracts often contain a number of indemnification obligations on the design–builder, including indemnities for patent infringement, tax liability, payment claims, and liens of subcontractors. One of the most significant indemnity provisions is often called the "general indemnity" and focuses on the design–builder's liability for claims, losses, and costs incurred by the agency arising out of the design–builder's conduct.

Section VII has a broader discussion of the legal issues and enforceability of indemnity clauses. From a commercial perspective, suffice it to say that the breadth of the indemnity (e.g., the events triggering the indemnity and the type of damages recoverable) are key points of concern for design–builders. For example, does the indemnity cover only third-party claims or does it also cover economic losses incurred by the agency? Does the design–builder have to be negligent to trigger the indemnity? Does the indemnity only extend to the "extent" of the design–builder's negligence, or will it cover all losses "if the design–builder is negligent in whole or in part?"

Most design–builders would prefer an indemnity similar to that used by VDOT, which reads as follows:

> Design–Builder, to the fullest extent permitted by law, shall indemnify, hold harmless and defend State Indemnitees from and against claims, losses, damages, liabilities, including attorneys' fees and expenses, for: (i) bodily injury, sickness or death, and property damage or destruction (other than to the Work itself) to the extent resulting from the negligent acts or omissions of Design–Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable; and (ii) any violation of Sections 2.5, 2.6, or 2.8 hereof by Design–Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable.[69]

[67] VDOT Design–Builder General Conditions, § 2.1.9.

[68] I-405/NE Sixth St. to I-5 Widening and Express Toll Lanes Project Request for Proposal § 1-05.16(1), Washington State Dep't of Transp. (2011), *available at* http://www.wsdot.wa.gov/biz/contaa/DESIGNBUILDCONTRACTS/NE%206TH%20ST%20TO%20I-5/RFP%20CHAPTER%201.pdf (last visited June 29, 2015).

[69] VDOT Design–Builder General Conditions, § 7.3.1.

This clause is essentially the same as what one might find in a design–bid–build construction contract. The indemnity obligations are triggered based upon the "extent" of the design–builder's negligence, focused on third-party claims, and covered by most commercial general liability insurance policies. The three violations referenced in the clause refer to the design–builder's responsibility for compliance with legal requirements, governmental approvals, and safety.

A clause that shifts slightly more risk to the design–builder is Florida Department of Transportation's (FDOT) standard general indemnity provision, which reads as follows:

> The Contractor shall indemnify and hold harmless the Department, its officers and employees from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the Contractor and persons employed or utilized by the Contractor in the performance of the construction Contract.[70]

This provision does not limit the design–builder's liability to third-party personal injury or property damage. As a consequence, it could be used by FDOT to recover its economic losses (e.g., administrative costs, claims paid to other contractors) arising from the design–builder's wrongdoing.

WSDOT used a very broad indemnity for the Alaskan Way Viaduct Replacement Project, as it directly addressed any losses (third-party or internal) arising from design defects:

> Subject to Section 18.1.3,[71] Design–Builder shall release, indemnify, defend and hold harmless the Indemnified Parties from and against any and all claims, causes of action, suits, judgments, investigations, legal or administrative proceedings, penalties, fines, damages, losses, liabilities, costs and expenses, including any injury to or death of persons or damage to or loss of property (including damage to utility facilities), and including attorneys', accountants' and expert witness fees and costs, arising out of, relating to or resulting from errors, omissions, deficiencies or defects in the Design Documents, regardless of whether such errors, omissions, deficiencies or defects were also included in the Basic Configuration, Conceptual Design or Reference Documents. Design–Builder agrees that, because the Basic Configuration, Conceptual Design and Reference Documents are necessarily subject to validation, review and modification by Design–Builder, it is appropriate for Design–Builder to assume liability for errors, omissions, deficiencies or defects in the completed Project even though they may be related to errors, omissions, deficiencies or defects in the Basic Configuration, Conceptual Design or Reference Documents.[72]

This clause reinforces the perspective that the design–builder is fully responsible, as the project's designer, for the efficacy of the design documents, and cannot shift this liability as a result of defective owner-furnished information. This is consistent with the discussion previously addressed in Section B. It also makes the design–builder potentially responsible for WSDOT's internal costs, as well as liable for "errors" and "omissions" in the design, regardless of whether the design–builder was negligent.

TxDOT's Loop 1604 Western Extension Project uses a different twist on the design–builder's indemnity obligations for design. Although the design–builder is obligated to indemnify TxDOT for "errors, inconsistencies or other defects in the design or construction of the Project," the indemnity does not apply to any third-party loss to the extent caused by:

> An unsafe requirement inherent in prescriptive design or prescriptive construction specifications of the Technical Provisions, but only where prior to occurrence of the third party Loss: (i) DB Contractor complied with such specifications and did not actually know, or would not have known, while exercising reasonable diligence, that the requirement created a potentially unsafe condition or (ii) DB Contractor knew of and reported to TxDOT the potentially unsafe requirement.[73]

This is a significant provision. It contemplates that there may be problems associated with the agency's design about which the design–builder could not have reasonably known, and does not require the design–builder to indemnify TxDOT for third-party claims (e.g., injured drivers) for these problems.

E. Limitations of Liability

As suggested by the name, limitation of liability (LoL) clauses attempt to limit or eliminate a party's exposure to financial loss or damages as a result of that party's conduct. These clauses take many forms and can:

[70] FDOT Division 1 General Requirements and Covenants § 7.12-1 (2014), *available at* http://www.dot.state.fl.us/specificationsoffice/Implemented/DesignBuild/HistoryDB/January15/Default.shtm (last visited June 29, 2015) (follow "The Design–Build Boilerplate" hyperlink).

[71] Section 18.1.3 (Losses Due to Negligence of Indemnified Parties) contains a typical provision stating that the indemnity does not apply if it is caused by the sole negligence or willful misconduct of an Indemnified Party:

> Design–Builder's obligation to indemnify, defend, or save harmless an Indemnified Party under Sections 18.1.1 and 18.1.2 shall not extend to any loss, damage or cost to the extent that such loss, damage or cost was caused by the sole negligence or willful misconduct of such Indemnified Party or its agents, servants or independent contractors who are directly responsible to such Indemnified Party.

[72] SR 99 Bored Tunnel Alternative Design–Build Project, Design–Build Contract § 18.1.2, Washington State Dep't of Transp. (2010).

[73] Loop 1604 Western Extension Project Design–Build Agreement Request for Proposals, § 18.1.2, Texas Dep't of Transp. (2013), *available at* http://ftp.dot.state.tx.us/pub/txdot-info/sat/loop1604_western/rfp/addendum4/dba-addendum4.pdf (last visited June 29, 2015).

- Establish a ceiling on the total amount of damages for which a party will be liable (e.g., 50 percent of the contract price).
- Exclude liability for consequential damages.
- Establish liquidated damages for certain breaches of contract (e.g., performance guarantees or delays).
- Limit recovery for certain events (e.g., no damages for delay).

LoL clauses that have a ceiling on total liability are commonly seen in specialty engineering contracts, such as those for geotechnical and inspection services. With these contracts, an engineer can face millions of dollars of potential liability if it is negligent but receive only a nominal fee. Although LoL clauses that impose a ceiling on a design–builder's total liability are not frequently used on public sector projects, exceptions have been seen on very large design–build contracts, where the design–builder faces substantial potential liability.

For example, the $3.9-billion Tappan Zee Hudson River Crossing Project design–build contract has the following LoL clause:[74]

> Subject to the exclusions set forth in Article 9.1(2), the entire liability of Design–Builder for any damages arising from the Design–Builder's performance or non-performance of any Work under the Contract Documents, regardless of the form of action (whether in contract, tort including negligence, indemnification, strict liability or otherwise, and including all liquidated damages assessable under the Contract Documents), shall not exceed the caps specified below, and the Authority released Design–Builder from all liability in excess of the specified caps:
>
> a. $ [*insert 50% of the Contract Price*] with respect to costs incurred by Authority or any Person acting on Authority's behalf in completing or correcting the Work or having the Work completed or corrected by another Person, including the cost of the work required or arising under the Warranties; and
>
> b. $350,000,000 with respect to any and all other costs.

Section 9.1(2) contains three exclusions to this LoL. They generally relate to: 1) any type of damage or loss covered by insurance; 2) any liability for damages to the extent arising from fraud, willful misconduct, recklessness, bad faith, gross negligence, or criminal acts; and 3) damages or compensation payable to the employees of the design–builder or its subcontractors.

This type of LoL clause is similar to those found in other big-dollar transportation design–build contracts, including the Dulles Rail Corridor Project (i.e., the Silver Line) being developed by the Metropolitan Washington Airports Authority (MWAA). Phase One of the Silver Line had an initial contract price of approximately $1.6 billion and a $500 million liability cap. Phase Two had an initial contract price of approximately $1.3 billion and a $750 million liability cap. Both liability caps had exclusions similar to those described in the LoL for the Tappan Zee Bridge project. WSDOT's Alaskan Way Viaduct Replacement Project, which had an initial contract value in excess of $1 billion, did not have any overall contractual liability cap.

In addition to LoL clauses that provide an aggregate monetary cap on the design–builder's liability, LoL clauses that provide for waivers of consequential damages are often found in design–build contracts, particularly on large projects. For example, on the Alaskan Way Viaduct Replacement Project, the contract's waiver reads as follows:

> Under no circumstances will either party be entitled to consequential damages arising out of the other's performance of (or failure to perform) under the Contract Documents, and each party hereby releases the other from such liability, provided that this limitation shall not excuse liability for fraud, gross negligence, intentional misconduct, or criminal acts and shall not limit the parties' ability to obtain recovery for liabilities, costs and losses covered by the insurance required hereunder. The term "consequential damages" shall mean those special, indirect or incidental damages that do not flow directly and immediately from an injurious act but that result indirectly from an action or failure to act, such as revenue losses, loss of use, cost of capital, debt service, loss of profit on related contracts, administrative costs, loss of bonding capacity, lost opportunity, claims of taxpayers and other indirect damage. Liabilities, costs and losses incurred by either party due to failure by the other to procure and maintain insurance policies required hereunder, as well as any amounts that this Contract expressly states are to be reimbursed from one party to the other (including interest, late charges, fees, penalties, and similar charges), shall be considered direct damages. This provision shall apply to limit liability under actions brought under any theory of law, including actions in tort (including negligence) as well as in contract.[75]

This clause provides an excellent description of the type of damages that might be considered "consequential damages."

Another example of a consequential damages waiver is found in VDOT's standard form design–build contract, which reads as follows:[76]

> Notwithstanding anything herein to the contrary (except as set forth in Section 10.4.2 below), neither design–builder nor department shall be liable to the other for any consequential losses or damages, whether arising in contract, warranty, tort (including negligence), strict liability or

[74] Tappan Zee Hudson River Crossing Project DB Contract Documents Part 1, Addendum No. 11, Article 9.1, New York State Thruway Authority (2012).

[75] SR 99 Bored Tunnel Alternative Design–Build Project, Design-Build Contract § 16.2.2.8, Washington State Dep't of Transp. (2010).

[76] VDOT Design–Builder General Conditions, § 10.4.

> otherwise, including but not limited to losses of use, profits, business, reputation or financing.

The exclusion referenced in Section 10.4.2 specifically notes that the consequential damages waiver is not intended to affect the payment of liquidated damages, which include some damages that might be considered consequential.

Numerous cases have considered the enforceability of LoL and consequential damages waiver clauses. Some of these are discussed in Section VI.

IV. PROCUREMENT AND CONTRACT ADMINISTRATION ISSUES AFFECTING DESIGN AND DESIGN LIABILITY

Industry literature is rich with studies that address practices for procuring and executing design–build transportation projects. This section will highlight four areas that can impact design and design liability:

- Design content in the procurement documents.
- Design review processes.
- Contractual approaches to differing site conditions.
- Alternative technical concepts (ATCs).

Liability issues that arise from each of these areas are discussed in other sections, particularly Sections III (contract clauses), V (acquisition), and VI (design–build case law). The purpose of this section is to offer insight into some state transportation agency practices in the above areas and how these practices may create liability.

A. Design Content in Procurement Documents

As noted in Section III, public owners commonly use disclaimers in design–build contracts in an attempt to absolve themselves from liability for information they furnished to proposers during the procurement process. The case law in Section VI explains that general disclaimers are ineffective in shifting this risk, and that the *Spearin* doctrine remains applicable in design–build. Many industry leaders recognize this principle, as evident in the following quotation from the U.S. Army Corps of Engineers design–build guidance document:

> [M]ost Government design–build contracts contain some or a lot of "prescriptive" design criteria, which often restrict the design–builder's flexibility and choices in meeting the owner's defined needs, and sometimes even prescribe the required design solution. There is case law confirming that the Government must accept the responsibility for the adequacy of design criteria furnished to the design–builder, including partially completed designs. In that event, the design–builder's liability should generally be limited to 1) the reasonable standard of the industry, based on breach of the standard of care of the industry, and/or 2) failure to comply with the owner's design criteria.[77]

Given that an owner can incur liability for providing proposers with faulty design criteria, it is important for the owner to carefully evaluate how far the design should be advanced before starting a design–build procurement. Generally speaking, the more design the owner undertakes, the greater is the opportunity for that design to have conflicts or ambiguities that would create a claim by the design–builder.

If an owner were only concerned about liability, it could simply provide performance specifications and require the design–builder to develop a design meeting those specifications. Most owners, however, are interested in more than liability transfer. Many would like to have control over specific elements of the design process. This is particularly true on transportation projects, where a fair amount of technical detail must be performed before design–build procurement can begin to achieve clearance under the National Environmental Policy Act of 1970 (NEPA)[78] and other permitting requirements.

National Cooperative Highway Research Program (NCHRP) Synthesis 376: Quality Assurance in Design-Build Projects (NCHRP Synthesis 376)[79] provides valuable insight on quality-related issues, including the appropriate level of design for design–build procurement. Stating that the procurement process is the "point of greatest influence on overall project quality," the synthesis observes that:

> A clearly defined scope of work in the RFP is one of the most important factors in achieving the desired level of quality on a DB project. The scope must include both design criteria for the design work that will be completed by the DB team as well as preliminary design completed by the DOT or its preliminary design consultant to convey to the design–builders the design intent, scope of work, and other parameters of the project. Without a well-defined scope, the owner greatly increases the likelihood of nonresponsive proposals.[80]

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[77] Guidance for Firm Fixed-Price, Design–Build Construction Contracts 516 (U.S. Army Corps of Engineers, 2005).

[78] Pub. L. No. 91-190, 83 Stat. 852, codified at 42 U.S.C. §§ 4321–4335.

[79] Douglas D. Gransberg, Keith R. Molenaar & Joseph N. Datin, Quality Assurance in Design–Build Projects (NCHRP Synthesis 376, Transportation Research Board, 2008).

[80] *Id*. at 33.

It further stated that the

> level of design development that is included in the RFP is vital in conveying the scope of work and is dependent on the amount of innovation the owner would like to encourage for a given project. Designs that are nearly complete do not give design–builders adequate room to innovate, whereas designs that are not clearly defined make pricing the project difficult and risky.[81]

The synthesis cited several studies that showed levels of procurement design ranging from 5 percent to 40 percent, with the average level of design prior to design–build contract award being 27 percent.[82] Its overall conclusion in looking at different transportation agency approaches to preliminary design development was that "there is not a 'one-size-fits-all' level of design in DB. Each project must be individually evaluated to determine the optimal level of design and gain the maximum benefit from using the DB delivery method."[83] The synthesis also states:

> Scopes that are too narrow do not allow design–builders the opportunity to provide innovative solutions to the design problem (citations omitted). Thus, a major benefit of DB is lost. Furthermore, the owner unintentionally retains a much larger portion of the design risk than necessary. The rule of thumb on design content is that if there is only one technically acceptable design solution for a given feature of work, the DOT should prescriptively specify it. If there is more than one acceptable solution, then the DOT could utilize performance criteria and/or performance specifications.[84]

Other studies support the conclusions in NCHRP Synthesis 376. The Federal Highway Administration's (FHWA) 2005 *Design–Build Effectiveness Report* states:

> The level of preliminary design that should be completed before a design–build contract is procured depends on the size and complexity of the project, the ability of the design–builder to develop a more cost-effective and constructable project design in a timely and competent manner, the degree to which performance specifications are used for the project, and the opportunity to gain valuable design capabilities, with earlier value engineering and constructability reviews as part of the process.[85]

Subsequently, FHWA issued two recommendations, each of which relate to the effectiveness of design–build and the liability issues that arise from it:

> To the extent practical, contracting agencies should provide for flexibility in the design criteria by using performance criteria to encourage creativity by the design–build proposing teams while providing a basis to hold the team accountable for project results. . . .
>
> Preliminary designs that are incorporated in the RFP should be no more than 30 percent complete, dropping to lower levels as the size and complexity of the project increases and the contracting agency gains greater experience with this project delivery approach and the use of performance-based specifications.[86]

Another supportive study was conducted by the American Road and Transportation Builders Association (ARTBA) and is described in its monograph, *Suggested Best Practices for Design–Build in Transportation Construction*.[87]

Both NCHRP Synthesis 376 and the FHWA *Design-Build Effectiveness Report* support the use of performance specifications in design–build. Although it is beyond the scope of this digest to discuss the administrative issues associated with their use,[88] it is worthwhile to note that industry literature provides examples of performance specifications being used with virtually no prescriptive language.[89]

Readers should note that a number of transportation agencies have incorporated a "basic configuration" concept in their contract documents to address the lack of flexibility and risk of errors associated with the relatively high level of design required to obtain NEPA approval. An example of this approach can be seen in TxDOT's design–build contract for

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[81] *Id* at 34.

[82] The synthesis cited the FHWA Design–Build Effectiveness Study, discussed below, in reaching this conclusion. *Id.* at 39.

[83] *Id.* at 35.

[84] *Id.* at 34.

[85] Fed. Highway Admin., *Conclusions and Recommendations, in* Design–Build Effectiveness Study 215 (2006), *available at* http://www.fhwa.dot.gov/reports/designbuild/designbuild0.htm (last visited June 29, 2015).

[86] *Id.*

[87] That monograph states: "Well advanced designs hinder innovation and limit a DB Team's ability to tailor a design to suit competitive means, methods, and equipment. Overly prescriptive design specifications and plans ('draw-build') are discouraged. These greatly reduce the potential for innovation, and serve only as an improper transfer of design risk away from the originator onto the DB Team without commensurate resources to manage." (P. 10.)

[88] The administrative issues associated with the use of performance specifications on design–build projects are treated in detail in Michael C. Loulakis, Legal Aspects for Performance-Based Specifications for Highway Construction and Maintenance Contracts (Nat'l Cooperative Highway Research Program, Legal Research Digest No. 61, Transportation Research Board, 2013).

[89] Consider the repair of the Interstate Highway 10 bridge over Florida's Escambia Bay after Hurricane Ivan. Within 48 hours of the hurricane, FDOT advertised and awarded a $26.4-million contract to reopen the highway using temporary bridging. The solicitation used "FDOT's standard form with 7 pages of hand-written 'assumptions and clarifications.'" The assumptions and clarifications were developed during a face-to-face meeting with four competing design–builders. This was cited in Brian Blanchard, *Design-Build Lessons Learned Florida DOT*, Proceedings, Louisiana Transportation Engineering Conference 6–14 (2007).

the U.S. 181 Harbor Bridge project.[90] The Harbor Bridge contract contains provisions restricting the design–builder from making material changes to the "Basic Configuration" without owner approval, but also provides that, if the basic configuration is not constructible, the owner will pay the design–builder's costs for fixing the problem. This serves the purposes of:

- Allowing proposers to rely on basic elements of the preliminary design in estimating the job.
- Giving the owner the ability to require the design–builder to conform to specified requirements.
- Giving the owner the ability to share in any cost savings associated with major changes in the basic configuration.
- Allowing the design–builder flexibility to use an alternative design approach for non-basic configuration elements (subject of course to environmental and other constraints), thereby reducing the risk of claims related to errors in those elements of the preliminary design.
- Enabling the design–builder to incorporate minor changes in basic configuration as part of the design process.

B. Design Reviews

The design review process for design–build projects raises fundamental questions for owners, particularly in terms of whether owners are willing to give up some control and make a "culture shift" in the mechanics of a design review.[91] The response to this question is particularly significant for scheduling, as "design activity is always on the critical path" of a design–build project.[92] Many of the cases discussed in Section VI involve disputes based on design–builder complaints that were impacted by actions the owner took during the design review and approval process. They show that concerns regarding design reviews are practical, not theoretical.

As a result of this, transportation agency decisions regarding design reviews reflect competing considerations. On the one hand, many transportation agencies would like to limit potential delay claims by reducing the number of "hold points" in the design review process and limiting potential claims for which an agency is liable for design flaws because it directed the project to be designed in a particular way. On the other hand, transportation agencies want to ensure that the project design will meet its requirements and will not result in later tort claims based on design defects.

NCHRP Synthesis 376 provides insight into transportation agency practices on design reviews and identifies three main trends in formal design review processes:

- No formal review before final (release-for-construction) design review.
- One review before the final design is released for construction.
- Multiple reviews before the final design review.

It also noted that in many instances the contract encourages the design–builder to request informal reviews that would allow the transportation agency to provide more frequent input to ensure that the final design would meet the contract requirements. Often called "over-the-shoulder" or "oversight" reviews, these processes have the benefit of allowing transportation agency input without requiring the design–builder to wait for formal comments.

NCHRP Synthesis 376 found that 15 percent of the projects it analyzed did not have any formal design review process prior to the transportation agency's receipt of final design documents. For example, the Minnesota Department of Transportation (MnDOT) used the following design review approach in one of its RFPs:

> The Department will participate in oversight reviews and reviews of early construction as part of its due diligence responsibilities. If the Department, in its review, observes that the Design–Builder is not complying with contract requirements and/or that the QC/QA checks are not complete, it will notify the Design–Builder in writing that construction may not proceed until the noted items are corrected. The Department's oversight review and comments will not constitute approval or acceptance of the design or subsequent construction.[93]

The synthesis noted that 56 percent of the projects analyzed required only one formal design

[90] The term "Basic Configuration" is defined as:

> (a) the Schematic ROW; (b) the components of the Schematic Design set forth in Section 1.2 of the Technical Provisions; (c) the number and type of lanes set forth in the Schematic Design; (d) the approximate location of New Harbor Bridge pylons as set forth in Attachment 13-2 to the Technical Provisions; (e) the approximate location of ramps as set forth in the Schematic Design; and (f) the approximate location and type of interchanges as set forth in the Schematic Design.

[91] James E. Koch, Douglas D. Gransberg & Keith R. Molenaar, Project Administration for Design–Build: A Primer for Owners, Engineers, and Contractors (2010).

[92] Chris Gauer, Design and Construction of Southeast Anthony Henday Drive, Edmonton, 4, Transportation Association of Canada (2006), *available at* http://conf.tac-atc.ca/english/resourcecentre/readingroom/conference/conf2006/docs/s015/gauer.pdf (last visited June 29, 2015).

[93] Douglas D. Gransberg, Keith R. Molenaar & Joseph N. Datin, Quality Assurance in Design–Build Projects 48 (Nat'l Cooperative Highway Research Program, Synthesis 376, Transportation Research Board, 2008). The cited project was Part I: Scope of Work T.H. 100–Duluth St. S.P. 2735-172, Design–Build Request for Proposals, Minnesota Department of Transportation, St. Paul, 2001.

review before the final design would be "released for construction." This gives the transportation agency an "intermediate point at which to verify that the design development is proceeding in accordance with the contract requirements and to ensure that it is progressing according to the schedule." The synthesis offered an example from a Mississippi Department of Transportation (MDOT) project:

> The CONTRACTOR will prepare and submit a single preliminary design submittal for the entire project. Preliminary design shall include roadway plan and profile, bridge type, selection layout, drainage, erosion control, signing, architectural and traffic control plans. MDOT will review Preliminary Design Submittals within 21 Days of the submittal.[94]

Finally, the synthesis found that roughly 30 percent of the analyzed design–build RFPs required more than one official owner review prior to releasing the design for construction. For example, the Maine Department of Transportation (MaineDOT) required that formal design package submittals be made at the 50 percent and 80 percent design development stage of any design package intended to be released for construction. It defined the term "released for construction" to mean, in general, those design documents that the design–builder's engineer-of-record reviewed, approved, and certified as being ready for construction.

The MaineDOT also included an "early release for construction" (RFC) design review process, described as follows:

> The Design–Builder has the option to RFC design plans for a particular bridge element. Early release can be for driving piles, constructing the footings and or foundation, and submission and approval of the superstructure in order to meet procurement schedules. The Early Release process requires submission of the design plans of the particular bridge element, associated computations, and QC/QA documentation…and a description of the elements to be released. The plans and computations shall be sealed by a Maine Licensed Professional Engineer. Plans should note that they represent an early release submittal and shall identify exactly what element is to be released. Any items shown on the design plans that are not to be RFC shall be clouded and cross-hatched within the clouds.[95]

This early release process allows the contractor to begin actual work before the entire design is complete, reviewed, and approved.

Related to the early release process is the question of what happens if the design is changed from the assumptions used to develop the early release construction documents. Most agencies address this directly in their contracts and indicate that the design–builder is proceeding at its own risk if it chooses to begin construction before its designer-of-record has obtained an approved submittal.[96]

NCHRP Synthesis 429 found a number of "over-the-shoulder" review processes in its content analysis. It noted that MnDOT uses them as the primary mechanism to provide input during the design process. MnDOT describes the process as: "The over-the-shoulder reviews are not hold points that restrict the progress of design…they are simply reviews of the design as it progresses and opportunities for MnDOT to provide comments and feedback on the design."[97] The Arizona Department of Transportation (ADOT) follows a similar procedure that it describes as follows: "Over-the-shoulder-reviews are performed while the design is being developed. They are proactive in nature, informal, interactive, and intended to catch omissions and oversights that may lead to a major redesign of the work."[98]

As discussed in Section VII, at least one state (California) requires a certain level of design review for the government to be able to rely on the "design immunity" exemption under applicable tort claims laws.

Regardless of the number of design reviews undertaken, many owners are concerned that, by approving the design produced by its design–builder, the owner may thereby assume some type of liability for the design. As noted in Section III, this is often addressed directly in the contract, where the owner's action on a submittal will not be deemed to transfer liability away from the design–builder. Applicable case law also indicates that this should not be a major concern from a legal standpoint.

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[94] *Id.* at 48, quoting from Request for Proposals, Addendum 1, A Design–Build Project Bridge Replacement on US 90 Over St. Louis Bay, Hancock and Harrison Counties, Mississippi, Project No. ER/BR-0003-01(098) 104555/301000—US 90 St. Louis Bay Bridge Replacement, Mississippi Department of Transportation (2005).

[95] *Id.* at 50, citing to Request for Proposals, I-295 Commercial Street Connector, FHWA Project No. IMD-7589(300); MDOT Project No. 7589.30, Maine Department of Transportation (2003).

[96] *See, e.g.,* Intermodal Transportation Division, Arizona Dep't of Transp., Design–Build Procurement and Administration Guide (2d ed. 2001).

[97] Douglas D. Gransberg and Michael C. Loulakis, Geotechnical Information Practices in Design–Build Projects (National Cooperative Highway Research Program, Synthesis 429, Transportation Research Board, 2012), *available at* http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_429.pdf (last visited June 29, 2015), biblio. ref. Minnesota Department of Transportation (MnDOT), Addendum 5, Project Management Book 2B, Trunk Highway 52 Oronoco Design–Build Project (2005).

[98] *Id.*, citing to Intermodal Transportation Division, Arizona Department of Transportation, Design–Build Procurement and Administration Guide 23 (3d ed. 2007), *available at* https://www.azdot.gov/docs/default-source/construction-group/designbuildguide.pdf?sfvrsn=0 (last visited July 1, 2015).

A much more significant concern, however, relates to the possibility that the owner may direct changes in the design through the design review process, thereby opening the door to delay claims as well as claims for additional costs associated with the design change. This risk can be managed by contractual limitations on the scope of the design review, such as providing that the design review is limited to a check for compliance. If the owner wishes to retain greater rights to provide review comments, it may wish to include provisions in the contract that detail the process to be followed with respect to any comments that the design–builder believes constitute a change in the contract requirements. For example, the contract for TxDOT's U.S. 181 Harbor Bridge project includes provisions that require the design–builder to "undertake reasonable efforts to accommodate or otherwise resolve" all comments provided by TxDOT, but also makes it clear that a change order is required if such comments result in a change in the underlying contract requirements.[99]

C. Contractual Approaches to DSCs

NCHRP Synthesis 429: Geotechnical Information Practices in Design-Build Projects (NCHRP Synthesis 429)[100] reviews how state transportation agencies use geotechnical information in solicitation documents and contracts for design–build highway projects. It examines current practices regarding the allocation of geotechnical risk and the level of geotechnical information provided with bid documents, the scope of geotechnical information required after contract award, geotechnical-related performance testing during construction, and contract provisions related to geotechnical design and construction.

The synthesis concluded, among other things, that geotechnical uncertainty is always high until the post-award site investigation and the completion of the geotechnical design report. Because geotechnical and site engineering is the first major design package and the one with the highest preaward uncertainty, it must be completed as expeditiously as possible. To accomplish this, the synthesis recommended that transportation agencies use expedited design review and acceptance procedures that may include one or more of the following techniques, each of which was discussed in the preceding section:

- Restricting the transportation agency to a single interim design review before final release for construction review.
- Maximizing the use of formal and informal over-the-shoulder design reviews.
- Permitting the release of geotechnical design packages for construction before the remainder of the design is complete.

It also recommended that explicit differing site conditions (DSC) clauses be used, as well as other "risk sharing clauses that quantify the design–builder's exposure to geotechnical risks, with the DOT assuming everything above that threshold."[101]

> The basic premise of a DSC clause is to give a contractor cost and time relief for:
>
> - Subsurface or latent physical conditions encountered at the site that differ materially from those indicated in the contract.
>
> - Unknown physical conditions at the site of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract.

The courts have been highly protective of a contractor's ability to obtain relief under this clause, as is evident by the discussion in Sections III and VI regarding disclaimers of geotechnical information furnished by the owner.

Substantial literature discusses the policy and benefits of a DSC clause. One leading case is *Foster Construction v. United States,*[102] where the court provided a clear explanation of the DSC clause's purpose:

> The purpose of the changed conditions clause is thus to take at least some of the gamble on subsurface conditions out of bidding. Bidders need not weigh the cost and ease of making their own borings against the risk of encountering an adverse subsurface, and they need not consider how large a contingency should be added to the bid to cover the risk. They will have no windfalls and no disasters. The Government benefits from more accurate bidding, without inflation for risks which may not eventuate. It pays for difficult subsurface work only when it is encountered and was not indicated in the logs.[103]

NCHRP Synthesis 429 noted that, although FHWA mandates the use of a DSC clause for federal-aid highway projects (unless the use of such a clause is contrary to state law), it does not have the same mandate for design–build projects. "Instead, it encourages state DOTs to use this clause when appropriate for the risk and responsibilities that are shared with the design–builder."[104] Notwithstanding

[99] Texas Dep't of Transp., Comprehensive Development Agreement for U.S. 181 Harbor Bridge Replacement Project § 4.1.7(b), RFP Addendum No. 6, at 62 (2015), *available at* http://ftp.dot.state.tx.us/pub/txdot-info/spd/cda/us181-harbor/rfp/addendum-6/cda.pdf (last visited June 29, 2015).

[100] NCHRP Synthesis 429.

[101] *Id.* at 2.

[102] 193 Ct. Cl. 587, 435 F.2d 873 (1970).

[103] *Id.* at 614, 435 F.2d at 887.

[104] NCHRP Synthesis 429, at 3

this, the synthesis noted that in the past several years, more public owners have decided that it is in their best interests to accept the risk of DSCs on design–build projects, and therefore use DSC clauses in their design–build contracts. This is due, in part, to the fact that design–build contracts are typically awarded before a thorough subsurface investigation is completed and a geotechnical design report is developed, making it difficult to mitigate this risk during procurement.

Although the policy behind the DSC clause is to eliminate some of the risk from bidding, transportation agencies have, particularly on larger design–build projects, used contract provisions that shift significant risk to the design–builder. According to NCHRP Synthesis 429, WSDOT uses this approach. It quotes a WSDOT survey respondent who stated: "We [assign] all changed conditions under a certain dollar amount (different amounts for different contracts) to the contractor's risk. If that threshold is exceeded, then the department pays for the costs above the threshold." For example, on the SR 520 Pontoon Construction design–build project, WSDOT used the following language in its DSC clause:

> Notwithstanding the above, the Design–Builder shall be entitled to equitable adjustment adjusting the Contract Price only for the actual, reasonable cost increase resulting from Differing Site Conditions which in the aggregate exceeds $10,000,000.00. The responsibility for the first $10,000,000.00 worth of Differing Site Conditions shall rest solely with the Design–Builder.[105]

During procurement, WSDOT received a request for information from a proposer, which stated that the $10 million cap was extraordinary and could result in large proposal contingencies. It asked WSDOT to reconsider this provision. WSDOT declined, stating:

> Establishing a threshold dollar amount for Differing Site Conditions accomplishes the following: 1) It provides a level of cost certainty for the owner, 2) It provides a level playing field by limiting the liability of the Design–Builder, and 3) Encourages the Design–Builder to develop strategies to limit risks associated with Differing Site Conditions. Providing a threshold dollar amount for Differing Site Conditions has been used successfully on all WSDOT design–build projects to date. The $10,000,000 threshold for this project is consistent with another WSDOT design–build project of this size and complexity (Tacoma Narrows Bridge).[106]

In essence, WSDOT put proposers on notice that it was willing to pay the $10 million contingency that a prudent design–builder would include in its lump sum price proposal. The clause effectively insulates WSDOT from being "nickeled and dimed to death" with minor DSC claims during the project's execution.

D. Alternative Technical Concepts (ATCs)[107]

FHWA's Construction Program Guide defines an ATC as "suggested changes submitted by proposing teams to the contracting agency's supplied basic configurations, project scope, design, or construction criteria. These proposed changes provide a solution that is equal to or better than the requirements in the RFP document."[108] If the ATC concept is acceptable to the contracting agency, it may be incorporated as part of the proposing teams' technical and price submittal, enabling flexibility to the proposers in order to enhance innovation and achieve efficiency. The use of ATCs on design–build federal-aid projects is governed by 23 Code of Federal Regulations (C.F.R.) 636.209(b).

Many industry publications extoll the benefits of ATCs on design–build projects. NCHRP Synthesis 429 found that they can facilitate the geotechnical design development process by enhancing communication during the proposal preparation phase of the project. It recommended that an owner use: 1) confidential one-on-one meetings to clarify an RFP intent and to allow presentation of potential ATCs, and 2) confidential preapproved ATCs to enhance innovation in geotechnical design and subsurface construction means and methods.[109]

NCHRP Synthesis 455: Alternative Technical Concepts for Contract Delivery Methods (NCHRP Synthesis 455)[110] provides a comprehensive discussion of ATCs. Chapter 2 of this synthesis includes a discussion regarding the legal issues relating to the ATC process. These include legal considerations associated with: 1) maintaining confidentiality with respect to evaluation and discussion of ATCs while complying with open meeting and

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[105] SR 520 Pontoon Construction Design–Build Project Request for Proposals, Volume 1: General Provisions 194, Washington State Dep't of Transp. (2009).

[106] SR 520 Pontoon Construction Design–Build Project: RFP Questions and Answers No. 1, Washington State Dep't of Transp. (2009), *available at* http://www.wsdot.wa.gov/biz/contaa/DESIGNBUILDCONTRACTS/SR520BRIDGEREPLACEMENT/2009_0924_RFP_QA_1.pdf (last visited June 29, 2015).

[107] ATCs are discussed in § III relative to their applicability to right-of-way acquisition and in § VI relative to liability considerations.

[108] Fed. Highway Admin., Construction Program Guide Alternative Technical Concepts. *Available at* http://www.fhwa.dot.gov/construction/cqit/atc.cfm (last visited June 29, 2015).

[109] NCHRP Synthesis 429, at 2.

[110] Douglas D. Gransberg, Michael C. Loulakis & Ghada M. Gad, Alternative Technical Concepts for Contract Delivery Methods (NCHRP Synthesis 455, Transportation Research Board, 2014) (hereinafter NCHRP Synthesis 455).

public records laws, 2) issues relating to ownership of the ATCs, 3) procurement-related issues, and 4) design liability considerations. The synthesis concludes that "[There is] no existing case law that specifically addresses ATCs. Consequently, before [an] agency can develop its own ATC program, it may choose to look carefully at its local restrictions and legal framework, and then determine how to apply such restrictions and framework to a procurement using ATCs." This conclusion was confirmed by the case law review conducted for this digest. It is further discussed in Section VI.

NCHRP Synthesis 455 referenced industry literature indicating that contractor design input contributes to an effective design and reduces errors and omissions through the input of construction knowledge. It stated that one reason that the Massachusetts Department of Transportation chose to implement ATCs was "to avoid delays and potential conflicts in the design."[111] As a result, the synthesis found that:

> [I]implementing ATCs with confidential one-on-one meetings effectively provides a new level of design quality control through the involvement of the contractor in reviewing the solicitation and design documents and identifying errors, omissions, and ambiguities. The literature indicated that contractor design input contributes to an effective design and reduces errors and omissions through the input of construction knowledge.[112]

Consistent with the above finding, the synthesis cited many examples of the confidentiality associated with ATCs. Public agencies voice frequent concern about how confidentiality is to be administered under "sunshine" laws and other situations. Although it is beyond the scope of this digest to delve into this topic in detail, readers should note that FHWA's design–build rule states that disclosure of ATCs may be legally required under some circumstances. For example, if an ATC is proposed that provides a feasible solution that avoids the need for a Section 4(f) approval, the agency is required by law to implement that solution. Organizational conflicts of interest may also present issues of concern during the ATC process, if an ATC is submitted based on information gained by a proposer team member through its previous work for the procuring agency and not available to the other proposers.

V. RIGHT-OF-WAY AND DESIGN–BUILD PROCESSES

Even in the best of circumstances, the interplay among all of the components of a complex project presents myriad daunting challenges for the development of transportation projects, particularly when federal funding is involved. Numerous decision points affect project quality, cost, and schedule. The construction processes require coordination of suppliers, subcontractors, labor, utility relocations, maintenance of traffic, and numerous other elements to ensure that the work proceeds efficiently, complies with applicable requirements, and is completed on schedule. That schedule, of course, depends upon the availability of access to the property on which preconstruction services and construction work will be performed. The challenges associated with right-of-way acquisition become even more significant for projects using a design–build delivery methodology.

The rules governing acquisition of real property rights needed for public works contracts are complex, the acquisition process is time-consuming, and many factors outside the acquiring agency's control impact voluntary transfers. As a consequence, understanding the available options and timing for right-of-way acquisition, and their associated costs and risks, is essential in structuring an effective project schedule and allocating responsibilities and risks between the procuring agency and the design–builder. The timing of different alternatives is especially important when involuntary acquisition (i.e., use of the power of eminent domain) becomes necessary.

This section explores the complications associated with right-of-way acquisitions for design–build projects. It will first provide introductory information about the right-of-way acquisition process and describe some of the unique risks associated with acquisitions for design–build projects. It will then discuss how risks may be allocated between the procuring agency and its design–build contractor, along with strategies to mitigate risk. Finally, it will discuss proposed changes to the federal regulations regarding real property acquisitions and how those changes may affect the acquisition process and alleviate related risks in the context of design–build projects.

A. Overview of Process for Acquiring Right-of-Way

In general, right-of-way acquisition for federally funded projects must comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the Uniform Act)[113] and meet applicable state law requirements. The requirements of the Uniform Act and implementing

[111] *Id.* at 33.

[112] *Id.*

[113] 42 U.S.C. §§ 4601–4655.

regulations apply to any project that uses federal funding, regardless of the amount of funds used and regardless of whether federal funds are used to acquire real property for the project.[114] The steps that are typically followed in property acquisitions, consistent with requirements of the Uniform Act, are described below.

1. Preparation of Right-of-Way Plans

The first step in the acquisition process is to define the project boundaries, survey the impacted parcels, and prepare right-of-way legal descriptions and plat maps. This step also entails: 1) ordering title reports for impacted properties to ensure that negotiations proceed with the person who holds title to the property; 2) identifying any encumbrances that need to be cleared from the property (e.g., liens, easements, leases, or other interests); and 3) preparing draft acquisition documents, including purchase agreements and deeds conveying title. These activities may be conducted concurrently with the NEPA environmental review process[115] and comparable state laws (discussed further in Section V.2.B, Relationships Among Right-of-Way Acquisition, the Environmental Review Process, and Design–Build Projects), although in most cases negotiation and other formal acquisition efforts must be deferred until after environmental approvals are obtained. This first step may take 4 months or more depending upon the number of parcels and complexity of title issues.

2. Appraisal Process

After the right-of-way planning concludes, the next step is the appraisal process. Although the acquiring agency may hold meetings and have informal contact with a landowner about the proposed project earlier in the process—for example, to conduct a feasibility study or analyze potential environmental issues—the next official step is preparation of appraisals and analysis of the appraisals by a review appraiser. The first formal expression of interest in the property typically involves sending the landowner a written "Notice of Intent to Appraise." The appraisal process generally takes at least 2 months, but can take much longer depending upon the number of parcels involved, the level of analysis required for the valuation, and the resources available to conduct the appraisals. In most cases, once the appraisal is finished, it must be reviewed by a qualified review appraiser. This process may take another month or more.

3. Offer and Negotiation

After obtaining the appraisal, the agency makes a written offer to purchase the property for what it determines is "just compensation,"[116] based upon the appraisal (typically the amount of the appraisal and never an amount less than the appraisal). Absent unusual circumstances, this step cannot proceed until after receipt of environmental approvals.[117] The landowner has a right to receive a summary of how the offer was determined. In some states, the owner may have the right to obtain the entire appraisal report or an independent appraisal at the agency's expense. Thus, the schedule for acquisitions must allow enough time for the acquiring entity to provide an offer to the landowner, negotiate terms of the acquisition, secure signatures on agreements, clear title, and either close the transaction or conduct formal condemnation efforts. Allowing adequate time for negotiations in the initial schedule (several months or more if acquisition will result in displacement of a resident or business) may reduce the risk that condemnation will be required.

4. Condemnation

If a negotiated settlement cannot be reached with the landowner, the agency's next step is to move forward with a condemnation action using its power of eminent domain, (i.e., the power to take or "condemn" property for "public use"), without the landowner's consent. Under the Fifth Amendment to the U.S.

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[114] *See* 49 C.F.R. pt. 24 (rules adopted by the United States Department of Transportation (USDOT) as the designated federal lead agency for the Uniform Act). *See also* 23 C.F.R. pt. 710 for FHWA's primary regulations dealing with real property interests, reimbursement, and management; 23 C.F.R. § 635.309 for FHWA regulations addressing right-of-way certification; and 23 § C.F.R. 710.313 for right-of-way procedures specifically applicable to federal-aid design–build projects. For FRA rules, *see* 49 C.F.R § 24.2 (a)(1)(iii); *see* Presentations of Uniform Act Final Rule Implementation (Feb. 24, 2005), *retrieved at* http://www.fhwa.dot.gov/real_estate/uniform_act/policy_and_guidance/urahudbc022405.cfm (last visited Aug. 2015).

[115] FHWA regulations provide that NEPA approvals must be issued before specified actions are taken relating to right-of-way acquisition. *See* 23 C.F.R. pt. 710.203(a)(3).

[116] *See* discussion in § V. A. 4. Condemnation.

[117] There are a few situations in which the agency is allowed to proceed with the formal acquisition process prior to obtaining environmental approvals. For example, an agency may acquire property at the request of the property owner to alleviate hardship, and an agency may engage in protective buying to prevent imminent development of property that would materially increase costs or limit the choice of project alternatives. (*See* 23 C.F.R. 710.503(b) (Protective Buying) and 23 C.F.R. 710.503(c) (Hardship Acquisitions)).

Constitution, the government may exercise this power only upon paying "just compensation."[118] In addition to complying with statutory and regulatory procedures, each agency, in using its eminent domain power, must ensure compliance with both federal and state constitutional and statutory requirements concerning "public use and necessity" and principles of "just compensation." Compliance requires careful analysis of the appropriate actions to be taken, because the federal definition of "just compensation" does not always coincide with the definitions of the term that apply in the various states. As just one example, some states require the condemning agency to compensate affected business owners for lost business goodwill,[119] although the federal rules do not permit recovery for goodwill losses.[120]

Every state's process is unique, but generally the acquiring agency holds a public hearing before making a formal decision to condemn, allowing due process to the landowner in the form of prior notice of the acquisition and an opportunity to be heard.[121] In California, the acquiring agency usually must adopt a "Resolution of Necessity" at a public hearing, which requires a determination that: 1) the project is necessary and in the public interest; 2) the project is located in a manner that provides the greatest public good and least private injury; and 3) the property is necessary for the project.[122] Once the agency adopts the resolution, the California agency can commence an eminent domain action in Superior Court. In contrast, Texas condemnation actions are initiated with a Petition for Condemnation,[123] after which the court appoints three Special Commissioners—real property landowners appointed by the court—to preside over proceedings to determine just compensation.[124] In New York, the burden lies with the landowner to sue the agency if it believes it has not been offered just compensation.[125]

Although landowners have the right to oppose the government's right to take their property, challenging the right to take is expensive, and in most cases the best the landowner can hope to achieve is to delay the taking. Of course, where projects are on a tight schedule and face potential loss of project funding or significant construction delays if access cannot be obtained, hold-out landowners who understand the situation may have tremendous leverage to obtain an inflated price. Tactical right-to-take challenges can create real pressure on the agency to settle to avoid delay, even if the challenge cannot ultimately stop the agency from condemning.

5. Relocation and Assistance

The Uniform Act provides protections and assistance for people displaced by federally assisted projects. The U.S. Department of Transportation, as the designated federal lead agency for the Uniform Act, has adopted implementation regulations[126] that apply in addition to rules adopted by its subsidiary transportation administrations (e.g., FHWA)[127] or other federal agencies (e.g., the Department of Housing and Urban Development). In addition, each federal agency maintains its own set of internal guidelines to assist in implementing the regulations. Acquisitions must also comply with applicable requirements of state law.[128]

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[118] *See* U.S. CONST. amend. V ["nor shall private property be taken for public use, without just compensation"]. *See also, e.g.*, CAL. CONST. art. I, § 19 ["Private property may be taken or damaged for a public use and only when just compensation, ascertained by a jury unless waived, has first been paid to, or into court for, the owner."]; OHIO CONST. art. I, § 19 ["Private property shall ever be held inviolate, but subservient to the public welfare. [W]here private property shall be taken for public use, a compensation therefor shall first be made…."]; N.Y. CONST. art. I, § 7(a) ["Private property shall not be taken for public use without just compensation."].

[119] *See, e.g.*, CAL. CODE CIV. PROC., § 1263.510.

[120] *See, e.g.,* United States v. General Motors Corp., 323 U.S. 373, 379 , 65 S. Ct. 357, 360, 89 L. Ed. 311, 319 (1944). *See also, e.g.*, United States v. 1.377 Acres of Land, 352 F.3d 1259, n. 5 (9th Cir. 2003) ["[T]his panel would not be entitled to reverse well-established Supreme Court precedent which makes clear that the loss of goodwill is not compensable in federal condemnation actions."].

[121] *See* NICHOLS ON EMINENT DOMAIN, ch. 4, § 4.103, at 4-80 to 4-120 (Matthew Bender, 3d ed.).

[122] *See* CAL. CODE CIV. PROC., § 1245.230.

[123] *See* TEX. PROP. CODE § 21.012.

[124] *See* TEX. PROP. CODE § 21.014.

[125] *See* N.Y. EM. DOM. PROC. LAW § 503.

[126] 49 C.F.R. pt. 24.

[127] FTA guidance is found in Circular 5010.1D, Nov. 1, 2008, Rev. 1, Aug. 27, 2012. For FHWA rules, see 23 C.F.R. pt. 710 for FHWA's primary regulations dealing with real property interests, reimbursement, and management; 23 C.F.R. § 635.309 for FHWA regulations addressing right-of-way certification; and 23 C.F.R. § 710.313 for right-of-way procedures specifically applicable to federal-aid design–build projects. For Federal Railroad Administration (FRA) rules, see 49 C.F.R § 24.2 (a)(1)(iii); see Presentations of Uniform Act Final Rule Implementation (Jan. 5, 2005), *retrieved at* http://www.fhwa.dot.gov/real_estate/uniform_act/policy_and_guidance/urahudbc022405.cfm (last visited Aug. 2015).

[128] *See, e.g.,* FHWA's *Real Estate Acquisition Guide for Local Public Agencies, retrieved at* http://www.fhwa.dot.gov/real_estate/uniform_act/program_administration/lpa_guide/ch02.cfm (last visited June 29, 2015) ["Because of the variations in eminent domain laws among the States, it is extremely important that agencies and individuals dealing with the acquisition of private property for federally assisted projects be familiar with applicable Federal and State laws and regulations."], Iowa Right of Way Information Packet, at vi (June 2007), *available at* http://www.iowadot.gov/lpamanual/infopak.pdf (last visited June 29, 2015), at vi ["Even if there is no federal or state funding in the acquisition of right-of-way, these procedures must be followed if any federal-aid is used in the project, and State Law applies to all projects."].

The Uniform Act's purposes are to: 1) provide uniform, fair, and equitable treatment of persons whose real property is acquired or who are displaced in connection with federally funded projects; 2) ensure relocation assistance is provided to displaced persons to lessen the emotional and financial impact of displacement; 3) ensure no individual or family is displaced unless decent, safe, and sanitary housing is available within the displaced person's financial means; 4) help improve housing conditions of displaced persons living in substandard housing; and 5) encourage and expedite acquisition by agreement and without coercion.[129]

Under the Uniform Act, if the acquisition will displace a residential tenant, owner occupant, business, farm, or nonprofit organization, the agency must, among other obligations, provide relocation advisory services to the person displaced. It must also provide a minimum of 90 days' written notice to vacate prior to taking possession. If forced to move, the displaced person is entitled to reasonable costs to relocate, including actual costs and business "reestablishment expenses," such as the cost of printing new stationery and business cards. A person who feels he or she has not been treated fairly may file an administrative appeal, and then a lawsuit seeking relocation expenses.[130]

Although the statute appears straightforward, implementation of the Uniform Act requirements can be highly complicated depending on the particular facts of individual situations. For example, the time required to locate comparable housing for a person with a disability may far exceed the required minimum advance notice. In addition, if a project requires numerous residential relocations, the agency may encounter housing shortages in the surrounding area due to the number of people moving at the same time. The agency is required to assist in locating a comparable replacement dwelling for all residential tenants before forcing them to move, even if the time far exceeds the minimum notice periods.[131] For businesses, lack of available relocation sites can result in payments for lost business goodwill in those (relatively few) states that provide for such recovery.

Under the Uniform Act, the range of relocation services the agency must offer differs depending on whether the acquisition qualifies as "voluntary" or "involuntary." Only "involuntary" acquisitions trigger the full range of requirements and benefits under 49 C.F.R. Part 24, Subpart B.

For agencies lacking the power of eminent domain, acquisitions are generally deemed "voluntary," though the agency must still follow certain procedures, including offering relocation assistance to displaced tenants. For agencies that possess the power of eminent domain, the inquiry is more complicated. To qualify as a "voluntary" acquisition when the agency has the power of eminent domain, the acquisition must meet all of the following criteria:

- No specific site is needed and any of several properties could be acquired for project purposes.
- The property is not part of an intended, planned, or designated project area where other properties will be acquired within specific time limits.
- The agency informs the owner in writing of the property's market value.
- The agency also informs the owner in writing that the property will not be acquired through condemnation if negotiations do not reach an amicable agreement.
- If tenants are displaced, the tenants are provided relocation assistance.[132]

6. Obtaining Possession and Title

The final steps in the acquisition process include obtaining title to and possession of the property. The rules for securing possession differ dramatically from state to state, and different agencies in the same state may be subject to different requirements. Some agencies have "quick-take" authority, pursuant to which the government may take control of and use property prior to completion of condemnation, usually by posting a bond or depositing the funds with the court or state treasurer so the landowner is guaranteed access to the money.

For example, in California (a "quick-take" state), if the acquiring agency wishes to take possession of the property before the condemnation lawsuit ends, it must deposit the probable amount of compensation with the county or state treasurer and serve the property owner with a motion for possession. The motion will not be heard by a court until several months after filing.[133]

A quick-take process is also available in Illinois. There, the acquiring agency must file a motion providing a formally adopted project schedule or plan

[129] FHWA's *Real Estate Acquisition Guide for Local Public Agencies, retrieved at* http://www.fhwa.dot.gov/real_estate/uniform_act/program_administration/lpa_guide/ch02.cfm (last visited June 29, 2015)

[130] 49 C.F.R. § 24.10; 5 U.S.C. § 704.

[131] *See* 49 C.F.R § 24.204.

[132] *See* U.S. Dep't of Housing and Urban Dev., Voluntary Acquisition vs. Involuntary Acquisition of Property, *available at* http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/affordablehousing/training/web/relocation/acquisition (last visited June 29, 2015).

[133] *See* CAL. CODE CIV. PROC. § 1255.410.

of operation. At the hearing, the agency must prove the necessity of the quick-take.[134]

In some states, the quick-take authority is limited to certain agencies, types of takings, or jurisdictions.[135] In one particularly complicated example, the Maryland Constitution contains detailed provisions for different quick-take requirements and procedures in different cities and counties within the state, including restrictions precluding any quick-take opportunities in some situations.[136]

Other alternatives to securing possession through a court action include negotiation of a right-of-entry agreement or a possession and use agreement with the landowners. If an alternative approach is adopted to obtain possession, care must be taken in dealing with the landowner to avoid running afoul of any Uniform Act and state law requirements.

The bottom line is that, in formulating the schedule for a design–build project, it is crucial for the parties to understand the procedures for acquisitions applicable to the particular project being contemplated and to build into the schedule a realistic timetable for obtaining possession of necessary properties, especially where no quick-take authority exists. Schedulers should not assume that right-of-entry agreements can be negotiated on all parcels, especially for projects with large numbers of acquisitions. Thus, where no quick-take authority exists, it may well take more than a year to gain access to needed properties.

B. Relationships Among Right-of-Way Acquisition, the Environmental Review Process, and Design–Build Projects

NEPA creates a complex regulatory framework that requires the analysis of the environmental impacts of federally funded projects be undertaken before a federal determination is made authorizing the federal funds grantee (i.e., nonfederal government procuring agency) to proceed with the project. This determination may come in the form of a Finding of No Significant Impact (FONSI) approving an Environmental Assessment or issuance of a Record of Decision (ROD) approving an Environmental Impact Statement (EIS).[137]

In addition to complying with NEPA requirements, the procuring agency may be required to undertake an environmental analysis under state law.[138] For example, public agencies that develop projects in California must prepare an Environmental Impact Report under the California Environmental Quality Act, a comprehensive statutory scheme similar to NEPA.[139]

The environmental review process may take many years to complete; it therefore poses a considerable risk to the schedule for timely acquisition of property not already under public ownership, regardless of the project delivery methodology used. The affected real estate market may change drastically during such an extended time period and thus have a significant effect on overall project costs. In addition, it is possible that the final design of a project may deviate from the project footprint evaluated during the environmental process, in which event the new design will need to be reviewed to determine whether additional impacts require a supplemental environmental analysis. A supplemental analysis could also be required if the original analysis failed to account for utility easements necessary for the project. Whenever a supplemental analysis is needed, further delays to the project schedule are likely.

The project schedule and scope of work for federally funded design–build projects are affected by environmental approval requirements in several important respects. As discussed in Section V.C (FHWA Rules Relevant to Design–Build Contracts), if a design–build contract is awarded before issuance of a final NEPA decision, the agency must comply with relevant FHWA regulations, including

[134] *See* 735 ILL. COMP. STAT. 30, arts. 20 and 25.

[135] *See, e.g.,* Johnson v. Wells County Water Resources Board, 410 N.W.2d 525 (N.D. Sup. Ct. 1987) (rejecting an effort by a water resources board to use North Dakota's quick-take procedure because the board lacked explicit legislation allowing it to use that procedure).

[136] *See* MD. CONST. art. III, § 40A.

[137] For a general primer on how the NEPA process works, see FHWA, TRANSPORTATION SAFETY PLANNING, INTEGRATING ROAD SAFETY INTO NEPA ANALYSIS: A PRIMER FOR SAFETY AND ENVIRONMENTAL PROFESSIONALS, http://www.fhwa.dot.gov/planning/transportation_safety_planning/resources/nepa_primer/primer02.cfm (last visited June 29, 2015).

[138] At least 17 states currently have their own NEPA equivalent: California (see CAL. PUB. RES. CODE, §§ 21000–21177); Connecticut (see CONN. GEN. STAT. ANN. §§ 22a-1–22a-905f); Georgia (see GA. CODE ANN. §§ 12-16-1–12-16-8); Hawaii (see HAW. REV. STAT. §§ 343-1–343-8); Indiana (see IND. CODE §§ 13-12-4-1–13-12-4-10); Maryland (see MD. NAT. RES. §§ 1-301–305); Massachusetts (see MASS. GEN. LAWS ANN. ch. 30, §§ 61–62H); Minnesota (see MINN. STAT. ANN. §§ 116D.01–116D.11); Montana (see MONT. CODE ANN. §§ 75-1-101–75-1-324); Nevada (NEV. REV. STAT. § 277.200); New Jersey (see NJ Exec. Order No. 215); New York (see N.Y. ENVTL. CONSERV. §§ 8-0101–8-0117);); North Carolina (see N.C. GEN. STAT. §§ 113A-1–113A-13); South Dakota (see S.D. CODIFIED LAWS §§ 34A-9-1–34A-9-13); Virginia (see VA. CODE ANN. §§ 10.1-1188–10.1-1192); Washington (see WASH. STAT. ANN. §§ 43.21C.010–43.21C.914); and Wisconsin (see WIS. STAT. ANN. § 1.11). For a general discussion of some of these state-equivalents, see Patrick Marchman, "Little NEPAs": State Equivalents to the National Environmental Policy Act in Indiana, Minnesota and Wisconsin (Sept. 2012), available at http://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/5891/P.%20Marchman%20Little%20NEPAs_Final_w%20endnotes.pdf?sequence=1 (last visited June 29, 2015).

[139] *See* CAL. PUB. RES. CODE §§ 21000–12117.

satisfying certain conditions in the procurement documents and complying with limitations on work that may proceed before the NEPA process is complete.[140]

Although not the subject of this digest, perhaps the most significant impact concerns the possibility that the NEPA process could conclude with a "no project" determination, resulting in the need to terminate the design–build contract. It is also possible that, if the environmental review process has not been completed prior to contract award, the final determination will result in changes in the project, affecting right-of-way acquisitions as well as the scope of the design–builder's work. Even where the final environmental approvals have been obtained prior to contract award, as previously noted, it is possible that the final design will require a supplemental environmental review, resulting in a schedule delay. Finally, in order for project development to proceed expeditiously, any right-of-way acquisitions required for the project will need to proceed concurrently with the design–builder's work.

C. FHWA Rules Relevant to Design–Build Contracts

FHWA promulgated its design–build rule in 2002 and has subsequently modified the rule several times.[141] With respect to right-of-way acquisition, the special needs of design–build projects are addressed in 23 C.F.R. 710.313. In general, acquisitions for design–build projects must comply with the Uniform Act, and the agency must submit a right-of-way certification in accordance with 23 C.F.R. 635.309(p) when requesting authorization from FHWA to proceed with final design and construction.[142] A number of agencies have raised concerns that relate to the certification process and have asked FHWA to modify the rule to allow greater flexibility in the process.[143]

The FHWA rule allows agencies to include right-of-way services in the design–builder's scope of work if allowed by state law, provided that the procuring agency ensures that the design–builder does not commence physical construction on a parcel until appropriate rights in the parcel have been acquired.[144] The design–build contract may prohibit the start of construction until all property required for the project has been obtained and all relocations have been completed, or it may provide for the acquisition process and construction activities to be phased or segmented, with separate right-of-way certifications for each phase or segment.[145] If right-of-way services are included in the design–build contract, the procurement documents must require the design–build contractor to provide a written relocation plan that includes reasonable time frames for orderly relocation of residents and businesses. The procurement documents must also make it clear that such time frames may not be compressed if other necessary actions preceding right-of-way acquisition are not completed in a timely manner.[146]

As discussed in Section G to follow, a rulemaking is pending to amend FHWA's regulations governing the acquisition, management, and disposal of real property for federally funded transportation programs and projects.[147] Among other things, the proposed amendments address the early action flexibilities provided by MAP-21,[148] reducing the risks faced by agencies using design–build.[149]

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[140] 23 C.F.R. § 636.109.

[141] *See* 67 Fed. Reg. 75,902 (Dec. 10, 2002). The design–build rule is primarily codified at 23 C.F.R. pt. 636, with related requirements found in pts. 627, 635, 636, and 710. Provisions concerning right-of-way acquisition are, for the most part, found in 23 C.F.R. pt. 710.

[142] 23 C.F.R. § 635.309(p)(1) states:

> (1) The FHWA's project authorization for final design and physical construction will not be issued until the following conditions have been met:
>
> (i) All projects must conform with the statewide and metropolitan transportation planning requirements (23 C.F.R. part 450).
>
> (ii) All projects in air quality nonattainment and maintenance areas must meet all transportation conformity requirements (40 C.F.R. parts 51 and 93).
>
> (iii) The NEPA review process has been concluded. (See 23 C.F.R. 636.109).
>
> (iv) The Request for Proposals document has been approved.
>
> (v) A statement is received from the STD that, either all right-of-way, utility, and railroad work has been completed or that all necessary arrangements will be made for the completion of right-of-way, utility, and railroad work.
>
> (vi) If the STD elects to include right-of-way, utility, and/or railroad services as part of the design–builder's scope of work, then the Request for Proposals document must include:
>
> (A) A statement concerning scope and current status of the required services, and
>
> (B) A statement which requires compliance with the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended, and 23 C.F.R. pt. 710.

[143] Some of these issues are addressed in a Nov. 24, 2014, Notice of Proposed Rulemaking. *See* 79 Fed. Reg. 69997, 69999 (Nov. 24, 2014).

[144] 23 C.F.R. § 710.313(a).

[145] 23 C.F.R. § 710.313(c).

[146] 23 C.F.R. § 710.313(d)(ii).

[147] 23 C.F.R. pts 635, 710, and 810.

[148] Pub. L. No. 112-141, 126 Stat. 405 (July 6, 2012).

[149] *See* 23 U.S.C. 108, as revised by § 1302 of Pub. L. No. 112-141, 126 Stat. 405 (July 6, 2012).

D. Assessment of Right-of-Way Risks

As discussed previously, 1) access rights must be obtained before construction may start on a particular parcel, and 2) in most cases, acquisition activities cannot occur until after the project receives certification that it has complied with federal and state environmental laws.[150] Because the decision to use design–build is frequently interrelated with a desire to accelerate project completion, at least some right-of-way acquisition will occur during the design–build contract term.[151] Simply speaking, this means that the property acquisition process can affect the construction schedule.

Agencies may approach right-of-way risks and responsibilities in a variety of ways, depending on budgetary constraints, objectives regarding cost certainty, and appetite for schedule risk, as well as the types, locations, uses, and ownership of parcels to be acquired and the difficulties these present in valuing and acquiring parcels. For some projects, it may be possible for the agency to avoid schedule-related right-of-way risk by acquiring all of the required parcels before issuing a notice to proceed to the design–builder. This is more likely to be an option for smaller projects that require minimal property acquisitions or for projects where the rights-of-way are already owned by the agency, such as projects that add high-occupancy vehicle lanes. However, on most projects this will not be a real option for the agency. As a consequence, it might consider alternative risk-reducing scenarios, such as:

- Retaining cost and schedule risk for right-of-way acquisitions by promising to provide property access to the design–builder by a specific date.
- Delegating responsibility for right-of-way acquisition to the design–builder, but retaining the responsibility to pay the acquisition price and relocation costs.
- Delegating to the design–builder both the responsibility to acquire the right-of-way and the responsibility for payment of the acquisition cost and relocation expenses.

The chart set forth in Appendix A provides information regarding the approaches adopted for various projects.

1. Relationship between Right-of-Way and Design Flexibility

Project owners that employ the design–build delivery methodology generally want to allow the design–builder substantial flexibility in the design process, so as to take advantage of private sector innovation and efficiency in project delivery. Innovations may have positive effects on right-of-way acquisitions. As one example, the agency may wish to encourage the design–builder to consider how to reduce acquisitions, thus reducing costs in areas with high property values, or how to reduce impacts on environmentally sensitive areas. On an interchange project in Utah, one of the proposers submitted a pre-proposal ATC to use a "diverging diamond" configuration.[152] This approach saved significant construction costs and reduced the owner's property acquisition costs for the project.

Design solutions may also require acquisition of additional property. In general, the project owner gains the greatest benefits in terms of flexibility by awarding a contract early in the environmental analysis process, though this may create complications for right-of-way acquisitions, as described in this section. In all cases, the level of design flexibility for public works projects is necessarily constrained by the fact that the environmental approval process requires property impacts to be evaluated.

If a design–build contract is to be awarded after the environmental analysis is concluded, or is awarded late in the environmental process, the agency will typically identify the project boundaries in the contract documents and require the design–builder to design the project within those limits. This "project envelope" may be narrowly defined, limiting design flexibility but allowing right-of-way acquisition to proceed without the need to wait for final design to be completed.[153]

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[150] *See, e.g.,* 23 C.F.R. 710.305.

[151] This is not always the case. Depending on a number of factors, an agency may be precluded from awarding a contract to the design–builder until after issuance of right-of-way certification. In other words, the agency may have to acquire the necessary right-of-way before it hires a contractor that will complete the project's design. In addition, many funding sources contain deadlines by which the agency must acquire the right-of-way in order to secure the funding. If the agency fails to obtain the right-of-way in a timely manner, funds may be reallocated, going to a different project.

[152] As discussed *infra*, ATCs provide an opportunity for design–build proposers to obtain approval from the procuring agency to incorporate innovative concepts into their proposals. The "diverging diamond" example is discussed in Del Walker and Steve Haines, *True Pioneer,* Roads and Bridges, Mar. 2010, at 23, *available at* http://www.roadsbridges.com/sites/default/files/22_DDI%20in%20Utah.indd.pdf (last visited June 29, 2015). *See also* slide presentation entitled, "Diverging Diamond Interchange I-15/American Fork Main Street," *available at* http://www.slideshare.net/UtahDOT/parsons-ddi (last visited June 29, 2015).

[153] The basic requirements for acquisitions by eminent domain are that the agency must establish the "public use" and "necessity" for the taking. (U.S. Const. amends. 5 and 14; *See, e.g.*, Cal. Dep't of Transp., Right Of Way Manual, § 9.01.00.00–901.15.00, Eminent Domain, for procedures regarding adoption of a Resolution of Necessity to condemn highway right-of-way in California.) Where the project's design is complete, or the project envelope is highly constrained, these hurdles should be relatively easy to meet.

In some cases, most often for so-called "greenfield" projects, the project envelope may be based on the footprint analyzed in the environmental documents and, therefore, be larger than needed for construction of the project improvements. This approach is often coupled with use of a "basic configuration" concept, giving the design–builder flexibility to make changes to the alignment included in the agency's conceptual design, so long as the new design conforms to contract requirements and remains within the specified envelope.[154]

One downside to this approach is that it may be difficult for the agency to rely on the project envelope as the basis for eminent domain proceedings, as the landowner may be able to argue that the area includes property not necessary for a public use because of the possibility that the final design may not incorporate the property in question.[155] For these types of projects, right-of-way acquisition is necessarily intertwined with the final design process, making it difficult for the agency to provide a schedule for acquisitions in the procurement package. In order to allow the proposers to develop a construction schedule for purposes of pricing the project, contract documents for some projects include specific time frames for the agency to provide access after receipt of specified documents and information from the design–builder. As an alternative, the project owner might want to transfer greater responsibility for acquisitions to the design–builder, as discussed in Section V.E.4 (Transfer Responsibility to Design–Builder).

2. Scheduling Right-of-Way Acquisitions

Requirements of the Uniform Act and applicable state laws make it difficult for agencies to negotiate property acquisitions on an expedited basis. If numerous parcels need to be acquired, it is likely that the right-of-way acquisition process will be on the critical path for construction of the project. As a result, a delay in the acquisition process will affect the design–builder's ability to meet the completion deadlines for the project.

If an agency is negotiating with a landowner willing to sell at the appraised value, the acquisition process can conclude relatively quickly. In many cases, however, the seller either disputes the appraised value or simply prefers not to sell. In those cases, it may be necessary for the project owner to file an eminent domain action.

As discussed in Section V.A (Overview of Process for Acquiring Right-of-Way), if an eminent domain action is required, the timeline for an acquisition can be protracted, and agencies with quick-take authority have an advantage over agencies that are unable to obtain access to property before a judgment is issued. Lack of quick-take authority is particularly problematic in places where the court system is overburdened, making it difficult to get trial dates for the condemnation action. Agencies may also have limited legal resources to undertake multiple condemnation actions simultaneously. Although the agency may be able to contract with outside lawyers for at least some of the acquisitions,[156] a decision to adopt that approach should be made early enough to allow the agency to go through a procurement process to engage outside counsel.

The uncertainty associated with acquisitions presents a dilemma for an agency that opts to retain responsibility and risk for right-of-way acquisitions. If the schedule included in the documents is overly pessimistic regarding the number of parcels that will have to go to litigation, the design–builder will inevitably propose a longer construction schedule. This extended construction period costs the design–builder more money in project overhead, which will be reflected in its proposal price. On the other hand, if the schedule is overly optimistic, the agency may find that it has to extend the time for completion and pay delay damages to the design–builder.

3. Risks Increase as More Parcels Need To Be Acquired

As the number of parcels required for the project increases, the likelihood that something might go wrong also increases. For this reason, some state right-of-way policies and procedures manuals specifically discourage design–build as a procurement method when the proposed project requires significant numbers of new parcel acquisitions. For example, FDOT's Project Management Handbook indicates that the types of projects usually selected for design–build consideration include those that "require minimum right-of-way acquisition and

[154] *See, e.g.,* UDOT's I-15 CORE design–build contract, discussed at § V.E.2.

[155] One of the fundamental characteristics of a "public use" finding is that the agency show that the property will in fact be put to a public use. With the project's design not finalized and uncertainty as to whether any particular property will ultimately be used in the final design, the agency may not be able to make this finding, which could defeat the agency's ability to condemn the property. Similarly, the landowner may argue that the agency cannot establish any necessity for the taking because the agency cannot say with certainty that the property will be necessary for the project's ultimate design. How can the agency make a legitimate finding that the property is "necessary" when it cannot say with any certainty that it will even be included in the final project design?

[156] Note that some agencies have policies that restrict the use of outside counsel for right-of-way acquisitions. Project planners should ensure at the outset that the use of outside counsel is permitted before crafting a schedule that relies on outside counsel to acquire right-of-way in a timely manner.

utility involvement,"[157] and "do not require complex environmental permitting."[158]

Nevertheless, even though a project may require acquisition of a large number of parcels, the agency may determine that the benefits of using a design–build procurement outweigh the risks. In some cases, the schedule risk may be relatively low even if there are large numbers of parcels. This is the case if the agency already owns a significant portion of the property required for the project, or if it has previously negotiated agreements with landowners allowing work to start prior to transfer of title.[159] In these situations, the design–builder has the ability to perform a significant amount of work on property already in hand, pending provision of access to the remaining parcels.

4. Special Circumstances that May Delay Acquisitions

A number of circumstances must be considered in assessing the risk of delay associated with specific parcels being acquired. These include:

• *Occupied property.* If the property is occupied, the Uniform Act requires the agency to pay for relocation costs and allow the occupants sufficient time to move. As discussed in more detail in Section 5.A.5 (Relocation and Assistance), this requirement further increases the risk of schedule delay and the uncertainty of costs associated with right-of-way acquisition.

• *Agricultural property.* Special rules apply when acquiring agricultural property, including an obligation to pay for lost income if the property includes standing crops or other agricultural commodities.[160] In some cases, it may be appropriate to delay the acquisition until crops can be harvested.

• *Contaminated property.* Where the property being acquired is contaminated by hazardous materials, delays may occur as the parties sort out who is paying for needed environmental remediation, how that remediation will be accomplished, and whether the agency will require cleanup before transfer of title, undertake the cleanup itself, or include the cleanup in the scope of the design–builder's work.[161] This can be further complicated where the remediation technique necessary for the proposed project is more complicated or expensive than any remediation the landowner would have needed to perform absent the proposed project. A wide divergence exists in the various states concerning how deductions from fair market value, if any, are applied when the government condemns contaminated property.[162] The specific requirements applicable to the jurisdiction need to be accounted for in budgeting for a project that involves acquisition of contaminated properties.[163]

• *Inability to exercise eminent domain authority.* In certain situations, an agency that has general condemnation authority may not be able to exercise that authority over all of the properties that need to be acquired for the project. This can occur, for example, when needed property lies outside the territorial boundaries of the acquiring agency,[164] or property is owned by an entity over whom the agency lacks emi-

[157] FDOT, PROJECT MANAGEMENT HANDBOOK, Pt. 2—Phase Specific Project Management Issues, ch. 6, Design–Build Project Management, at 4, revised May 31, 2012, *available at* http://www.dot.state.fl.us/projectmanagementoffice/PM Handbook/P2_Ch06.pdf (last visited June 29, 2015).

[158] *Id.*

[159] Several examples of such projects are identified in the chart set forth in App. A.

[160] *See* 42 U.S.C. § 4622 (a)(2), which provides for compensation for loss of tangible personal property. Standing crops are generally considered personal property for purposes of the Uniform Act.

[161] Note that there may be both federal (*see, e.g.*, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601–9628; Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901–6992, and state (*see, e.g.*, CAL. HEALTH & SAFETY CODE, §§ 25403–26204 New York State Navigation Law, Article 12; Oil Spill Prevention, Control, and Compensation) laws that impact the agency's options with respect to clean up of contamination.

[162] *Compare, e.g.*, Mobil Oil Co. v. City of N.Y., 12 A.D. 3d 77, 783 N.Y.S.2d 75 (2004) and Dep't of Transp. v. Parr, 259 Ill. App. 3d 602, 633 N.E.2d 19 (1994) (rejecting an effort by the condemning agency to deduct the cost of remediation from the award of just compensation), *with* Finkelstein v. Dep't of Transp., 656 So. 2d 921 (Fla. 1995) *and* Redevelopment Agency v. Thrifty Oil Co., 4 Cal. App. 4th 469, 5 Cal. Rptr. 2d 687 (1992).

[163] For a broader discussion of these issues, see Orell Anderson, Jerry English, Keith McCullough, John Schepisi & Stephen Valdez, *The Intersection of Eminent Domain and Environmental Contamination* (May 19, 2011), Am. Bar Ass'n Litigation Sect., http://apps.americanbar.org/litigation/committees/environmental/articles/051911-eminent-domain.html (last visited June 29, 2015).

[164] Some agencies lack any authority over property outside of their territorial limits. When this is the case, the agency may need to rely on a neighboring agency's use of its eminent domain power to acquire the needed property. In some states, the agency might be able to enter into a joint powers agreement with the neighboring agency, allowing direct use of the broader eminent domain power. The parties will need to carefully navigate rules limiting the uses to which a condemned property may be put to ensure that the property acquired by the neighboring agency can be used for the project. Some agencies, however, do possess limited authority to perform extraterritorial condemnations. In order to avoid delays to projects requiring acquisition of parcels outside of an agency's jurisdiction, the agency should consider the applicable limitations and make arrangements, before proceeding with a design–build procurement, to enable the acquisitions to occur.

nent domain authority or who is otherwise not subject to condemnation.[165] In some states, the government does not have the power of eminent domain with respect to cemeteries.[166] If critical properties fall into this category, and the agency is unable to obtain access rights prior to award of the design–build contract, the agency should, before proceeding with the contract award, carefully consider whether it should postpone the award or include provisions in the contract that address the possibility of further delay or failure to obtain access.

5. Right-of-Way Acquisition Costs

As is the case for all projects that require property acquisitions, design–build projects face the risk of real estate market conditions. If acquisition is delayed, there is a risk that property values may change from the contract bid date until acquisition actually occurs. The FHWA rule permits agencies to pass the risk of fluctuating property values to the design–builder.[167] Some design–builders may not be willing to accept this risk, and, if they do, they will factor it into the bid price. Market values may also decline after property is acquired. Declining property values would impair the agency's ability to recoup the full value of funds expended for property acquired in advance that is not incorporated into the final project right-of-way. It would also affect the potential value to be gained from alternative design concepts and value engineering (VE) change proposals.

6. Political Risk of a Change in Alignment Following Award

For design–bid–build projects, the normal order of planning and development means that the construction contract is awarded only after environmental approvals have been obtained, the design of the project has been completed, and all right-of-way has been acquired. The risk of a major change in alignment at that point in the development process is quite low, as political preferences and public input would have been considered through the environmental approval and design and property acquisition processes. Furthermore, a decision to change the alignment after award of the construction contract would result in significant liability for the procuring agency, which would bear the risk of any necessary redesign, changes in the scope of the construction work, and project delays, as well as being responsible for determining which parcels are needed and acquiring the property.

In contrast, for design–build projects, the contract is awarded at a relatively low level of design and usually before all of the right-of-way is acquired. It is possible that reasons for changing the alignment will become apparent as the design proceeds, or that issues relating to site conditions or property acquisitions will result in a decision to move the alignment to avoid problems. The risk of an alignment change following contract award is therefore higher for design–build contracts than for design–bid–build contracts.

The risk of an alignment change is somewhat higher when a design–build contract is awarded early in the environmental review process. Early contract award, which is specifically permitted by FHWA regulations,[168] allows the decision-makers to obtain the benefit of input from the design–builder in analyzing the alternatives. For these projects, the risk of an alignment change is highest during the initial phase of the project, with a reduced risk after the final environmental approval is obtained. Fortunately, even though design–build projects involve a higher risk of a change in alignment, the impacts of an alignment change may be reduced by the design–builder's ability to manage both the design and construction processes. This enables the design–builder to take steps to reduce the impacts of any alignment change. As discussed later in this digest, New Jersey Transit's Hudson–Bergen Light Rail Transit Project provides an example of an alignment change that had a relatively low impact on the design–builder's work.

E. Allocation of Risk and Responsibility

As can be seen from the chart in Appendix A, different agencies have used different approaches to right-of-way acquisition risk allocation. Consistent with best practices for design–build projects (and with guidance provided in FHWA's design–build rule), it is advisable to consider which of the parties "is in the best position to manage and control a given risk or the impact of a given risk."[169] The following discussion relates to different approaches to allocation of right-of-way risk and

[165] Often, "lower" agencies cannot condemn property from "higher" agencies. In particular, no state or local agency can condemn property from the federal government. (*See* NICHOLS ON EMINENT DOMAIN, ch. 2, § 2.22 [3], at 2-131 (Matthew Bender, 3d ed., citing Sacramento v. Sec'y Housing & Urban Dev. 363 F. Supp. 736 (E.D. Cal. 1972)). Similarly, local agencies often cannot condemn property owned by the state. Comparable issues affect property acquisitions from railroad operators granted rights in property by the federal government. Some exceptions to these rules exist, depending on state law. In some cases the agency may be able to obtain property rights by demonstrating that its proposed use qualifies as "more necessary" than the use to which the property is currently being put. (*See, e.g.*, CAL. CODE CIV. PROC., § 1240.610.) The best approach, where possible, is to negotiate a purchase agreement or a joint use agreement with the other entity, avoiding the need to navigate these thorny eminent domain issues.

[166] *See* TEX. HEALTH & SAFETY CODE § 711.035.

[167] 23 C.F.R. § 636.114(b)(5).

[168] *See* 23 C.F.R. § 636.109.

[169] 23 C.F.R. § 636.114(a).

responsibility that agencies may wish to consider, including examples from some of the projects identified in the chart set forth in Appendix A.

1. Reduce Risk of Delaying the Construction Schedule by Using Advance Acquisitions

For some projects, it may be possible to eliminate risk of delays to the construction schedule that result from delays in property acquisitions if the agency acquires right-of-way before issuing a notice to proceed to the design–builder. As discussed earlier in this section, this approach has several downsides. It requires the agency to determine the alignment in advance, which limits the design–builder's flexibility in proposing alternative design solutions. In addition, although this approach may reduce the risk of construction schedule delay, it will likely prolong the overall project delivery as the agency acquires the necessary right-of-way. This is the approach generally adopted by ADOT for its design–build projects in the past, largely due to statutory limitations.[170] ADOT is planning to use a different approach for its Loop 202 South Mountain Freeway project, as described in the chart set forth in Appendix A.

2. Owner Identification of Properties and Retention of Responsibility for Acquisitions

Many agencies using design–build elect to identify parcels that will be required and retain responsibility for acquiring property over the course of the project. They will include a schedule in the contract documents identifying dates by which access to individual parcels will be obtained to enable the design–builder to plan accordingly. In one example, the Utah Department of Transportation (UDOT) identified 287 parcels to be acquired by specified dates for the Interstate 15 (I-15) Corridor Reconstruction (CORE) design–build project, retaining liability for delay costs attributable to failure to meet the specified availability dates. In fact, because all parcels were acquired in a timely fashion, UDOT incurred no such liability.[171]

Even though the owner has pre-identified the parcels to be acquired, this approach allows some degree of flexibility in design. Design–builders are typically allowed to propose additional properties for acquisition either through ATCs during the pre-proposal period or through submittals during the design period. For the I-15 CORE project, the design–builder had the ability to identify additional properties and was responsible for preparing legal descriptions and other specified documentation for any parcels outside the planned right-of-way envelope. The design–builder was also required to pay the cost of acquiring any such additional parcels. As is typical, the contract required the design–builder to obtain any federal, state, or local permit amendments necessitated by the proposed addition of new parcels to the project right-of-way.

Contracts that include a schedule of parcels to be acquired by the project owner sometimes also include a VE provision that allows the design–builder to evaluate opportunities for project cost savings. The I-15 CORE contract included a formula for UDOT's savings to be shared with the design–builder if the VE proposal reduced the agency's right-of-way acquisition costs.

When an agency retains responsibility for acquisition of right-of-way and delivery of access to the contractor by specified dates, the design–build contract will allocate the risk of delay between the parties by defining the circumstances in which delays in access will afford the design–builder schedule relief and compensation for additional costs resulting from the delay. Usually the relief afforded will differ depending on whether the particular parcel is on the critical path, the extent to which the construction schedule can be adjusted to work around the problem parcel, and whether a party is at fault with respect to the delay.

3. Owner Identification of Outside Boundaries; Shared Responsibility for Acquisitions

Some agencies may wish to allow the design–builder a greater degree of flexibility in the design process than is allowed under the approach described in the preceding section, while still retaining ultimate responsibility for the acquisitions. For the Eastern Toll Road, a greenfield toll road built in the 1990s in Orange County, California, the contract documents included outside boundaries for the project and required the design–builder to identify required parcels within the boundaries. The horizontal and vertical alignments for the mainline project were included in the project's basic configuration definition, and the design–builder had the ability to make certain changes to the basic configuration through the design process. This could have included moving the alignment by up to 50 ft horizontally and up to 2 ft vertically, provided the change could be made without violating other contract requirements.

For the Eastern Toll Road, once the design reached a level that allowed parcels to be identified for acquisition, the design–builder was required to perform survey, title review, document preparation,

[170] *See* § 2.1 of ADOT's 2007 *Design-Build Procurement and Administration Guide*, http://azdot.gov/docs/default-source/construction-group/designbuildguide.pdf?sfvrsn=0 (last visited June 29, 2015).

[171] *See* Utah Dep't of Transp., 2012 Efficiencies Report, State Legislature Version, at 29 (2013), http://www.udot.utah.gov/main/uconowner.gf?n=2744130635144498 (last visited June 29, 2015).

and related services to enable the agency to proceed with acquisitions. The procuring agency committed to review the documents and information delivered by the design–builder within a specified period after delivery. The contract documents included timelines for the acquisitions based on the agency's determination as to whether or not condemnation would be required for the acquisition, with different timelines applying to vacant land and occupied property. This approach was considered feasible in part because the majority of the property required for the project was provided without the need for condemnation, due to a dedication by a single major landowner.

An "Agency-Caused Delay" was considered to occur if the critical path was delayed by the agency's failure to provide property as promised, entitling the design–builder to a time extension and delay damages. The design–builder's scope also included services to identify excess properties and facilitate any required reconveyances to landowners upon completion of the project.

4. Transfer Responsibility to Design–Builder

Some agencies have determined that the risks associated with timing of right-of-way acquisition may be managed best by including right-of-way acquisition in the design–builder's scope of work.[172] This is easier to do in states where the government already uses consultants to negotiate acquisitions, as the private sector has knowledge regarding the procedures to be followed and systems that can be used to monitor progress. If an agency is interested in transferring responsibility for acquisitions to the design–builder, alternative approaches that it may wish to consider include:

- Assigning responsibility to the design–builder for all aspects of the acquisitions, from negotiation to litigation, with the public agency retaining responsibility for determining the necessity of acquisitions. This approach is more commonly seen for public–private partnerships, because it entails transfer of significant risk to the contractor.
- Requiring the design–builder to provide acquisition services, with the project owner retaining the obligation to pay the purchase price for parcels acquired. This is the approach described in the chart set forth in Appendix A for ADOT's Loop 202 South Mountain Freeway project.
- Requiring the design–builder to negotiate acquisitions, with the project owner retaining responsibility for prosecuting eminent domain actions and either paying for land purchase costs (the approach adopted by TxDOT) or paying for land purchase costs exceeding specified limits (the approach adopted by the South Carolina Department of Transportation (SCDOT)).

From the time it first started using design–build, SCDOT has included right-of-way acquisition in the scope of its design–build contracts.[173] Services to be provided by the design–builder, acting as an agent on behalf of the State of South Carolina, include appraisal, appraisal review, negotiation, acquisition, relocation assistance, and expert testimony. SCDOT retains final authority for approving just compensation, relocation benefits, and settlements.[174] The design–builder is responsible for all costs, excluding "premium" costs, associated with the purchase of the right-of-way, and for all costs of any additional area desired by the design–builder. Right-of-way costs for which the design–builder is responsible are the amounts paid for direct payments for ownership or other property rights and eligible relocation expenses, excluding "premium" acquisition costs (i.e., amounts of a jury award that exceed the agency's estimated amount of "just compensation"). If additional right-of-way is required, extending beyond the environmentally approved envelope, the design–builder is responsible for reevaluation of the approved environmental documents.

Even where the design–builder assumes significant responsibility for acquisitions, it will be necessary for the project owner to coordinate closely with

[172] In *A Case Study of the Kentucky Transportation Cabinet's Design/Build Pilot Projects*, the University of Kentucky's Kentucky Transportation Center found that design–build was most effective when utility relocation, permitting, and right-of-way acquisition were placed directly under the design–builder's control, by allowing them to better coordinate construction activities and resources required to address these concerns.

> Right of way acquisition has differed among the projects. Some projects required almost no right-of-way acquisition while others required millions of dollars' worth of parcels. Clearly projects that require more right of way acquisition are exposed to more risk of associated delays. While projects that require little or no right of way have less risk of delay. No matter how much ROW was required, it was clear that having the DBT provide ROW acquisition services was an advantage. It allowed the ROW to be acquired in sequence with the construction schedule. In the case that the acquisition was held up, the contractor knew the severity of the situation immediately and was able to adjust the work accordingly. The DBT handling ROW acquisition has been a definite advantage for the DB pilot projects.

KENTUCKY TRANSPORTATION CENTER, UNIVERSITY OF KENTUCKY, Research Report KTC-13-10/TA25-06-1F (2013), at 95.

[173] *See* Request for Proposals for the U.S. Route 701 Bridge Replacements over Yauhannah Lake, Great Pee Dee River, and Great Pee Dee Overflow, South Carolina Dep't of Transp. (2014) *available at* http://www.scdot.org/doing/doingPDFs/US701_D-B_RFP_Final_08_05_14.pdf (last visited June 29, 2015).

[174] *Id.* at 30.

the design–build team to avoid delays in the process. For TxDOT's Grand Parkway project, involving acquisition of 435 parcels to coincide with a 30-month construction schedule, the owner co-located its right-of-way team with the design–builder's, and the parties held workshops with the joint team. The owner's representative estimated that the coordination efforts significantly reduced the time required to complete the acquisitions.[175]

F. Common Challenges Relating to Right-of-Way Risk

1. Access to Parcel Not Provided by Date on Which Design-Builder Planned to Start Construction on the Parcel

Regardless of which party is performing acquisition services, it is essential for the design and construction team to coordinate closely with the right-of-way team, to enable mitigation of impacts of anticipated delays in property acquisition and to allow the construction team to take advantage of acquisitions closing ahead of schedule. However, despite best efforts to coordinate design and construction with right-of-way, unless all of the property is acquired in advance, one of the major risks for design–build projects concerns the possibility that property may not be available when needed for construction to proceed, resulting in delays to the project and disrupting the design–builder's construction sequencing. This risk can be reduced by ensuring that the construction schedule includes reasonable assumptions regarding the timeline for property acquisitions.

If the critical path is affected by delay in access to property, the risk of that delay is typically allocated based on which party bears responsibility for property acquisitions. If the contract requires the procuring agency to provide access to specific parcels by a specific date, failure to provide timely access that affects the critical path is normally considered a delay caused by the agency, entitling the design–builder to a time extension and, in many jurisdictions, delay damages. As a general matter, as greater responsibility for right-of-way acquisitions shifts to the design–builder, the agency's potential liability for delays is reduced. For projects that use the approach adopted by SCDOT and TxDOT described in Section V.E.4 (Transfer Responsibility to Design–Builder), where the agency's responsibility is limited to making certain decisions and payments related to acquisitions and prosecuting condemnation actions, the agency's liability to the design–builder can be limited to circumstances in which the agency fails to perform its responsibilities in a timely manner.

[175] Interview with Donald C. Toner, Jr., SR/WA, Director, SPD-Right of Way Office/Strategic Projects Division, TxDOT (Mar. 10, 2015).

2. Access Restrictions Affecting Construction

For some projects, design–builders may raise concerns about possible schedule delays that result from restrictions placed on access to property being acquired by the agency. This seems more likely to present an issue when property needed for a project is owned by a governmental entity or railroad operator with superior rights to the procuring agency or by a third party with political clout. Ideally, all such transactions would be fully negotiated before the proposal date so that the proposers can be advised of applicable restrictions in advance and account for the restrictions in setting the construction schedule. The precedent contracts reviewed in connection with this section generally obligate the design–builder to comply with restrictions applicable to access to property, without any commitments regarding the nature of such restrictions. It appears, however, that some contractors are concerned about access restrictions and may ask the project owner to include detailed information regarding such restrictions in the contract documents.[176]

[176] *See*, *e.g.*, Concession and Lease Agreement 52–53, Regional Transp. Dist. and Denver Transit Partners, LLC (2010), *available at* http://www.rtd-fastracks.com/media/uploads/ep3/Concession_Agreement.pdf (last visited June 29, 2015). The agreement required the district to deliver "Vacant Possession" of specified parcels to the concessionaire, defined as access subject only to the following:

> (a) access rights of RTD and the Project Third Parties as set out in the Third Party Agreements, including with respect to Utility Work in connection with any RTD Relocated Utility;
>
> (b) access rights of the DUS Infrastructure Contractor pursuant to the DUS Infrastructure Agreement;
>
> (c) the rights of Relevant Authorities, Utility Owners or third parties to have access to such Site existing as of the Final Proposal Due Date;
>
> (d) the statutory rights or public franchise rights of Relevant Authorities and Utility Owners to have access to such Site existing as of the Technical Proposal Due Date;
>
> (e) the rights, including rights of access, granted to RTD and its employees, agents, consultants and contractors and to other Persons under this Agreement and the other Project Agreements;
>
> (f) restrictions of use set forth in easement deeds and/or right of entry permits applicable to the Sites as such restrictions are specified in Part E (Limitations) of Attachment 2 (Description of Sites and Schedules of Site Availability) as provided to the Concessionaire prior to the Technical Proposal Due Date; and
>
> (g) restrictions set forth in any title commitments related to the Sites attached in Part F (Title Commitments) to Attachment 2 (Description of Sites and Schedules of Site Availability).

3. Design–Builder Wishes to Acquire Temporary Interest in Parcel that the Agency is Planning to Acquire for Permanent Right-of-Way

Most projects require temporary rights in property outside of the permanent right-of-way for laydown areas, temporary construction easements, and property interests needed to facilitate utility relocations. Temporary interests in property may also be needed to conduct surveys and environmental testing during the preconstruction period (including tests for hazardous waste and impacts to critical habitat or protected species, among others) and other work. The design–build contract may require the design–builder to identify property interests that it needs and bear the costs and risks associated with acquiring those property rights. Many design–build contracts limit the agency's responsibility in these circumstances to providing key approvals and, to the extent the agency deems it necessary and appropriate, prosecuting eminent domain actions.

A design–builder's acquisition of temporary rights in property outside of the permanent right-of-way typically does not trigger concerns with regard to Uniform Act compliance when the rights are negotiated voluntarily and the property is being acquired for the design–builder's convenience (as opposed to being a necessary acquisition). Nevertheless, in some situations, it may be in the interest of the project to preserve the ability to proceed under the Uniform Act in acquiring the property rights (e.g., where there is only one logical location for required activities). The Uniform Act is also a concern when the design–builder seeks to acquire temporary rights in a property that will be included within the final alignment, in advance of acquisition of the permanent interest.[177] In such situations, care must be taken to ensure that the design–builder does not engage in any discussions that would be "coercive" or otherwise violate Uniform Act requirements, thus impairing the agency's ability to obtain permanent rights in the property in question.

UDOT's I-15 CORE contract documents include the following requirement related to temporary easements (TEs) in the contract's Technical Provisions:

> 19C–4.1. Temporary Easements
>
> The Design–Builder, at its sole cost and expense, shall be responsible for acquiring all TEs not otherwise shown in Part 5 that are necessary to meet the requirements of the Contract Documents.
>
> All temporary easements shall be appraised and valued in accordance with the Department's Right-of-Way Design Manual, Part 10. If a TE is to be acquired on a property which the Department has an unsettled condemnation case, the same original appraiser shall value the TE. Obtain Department Approval of the value determination prior to any offers to landowners [*sic*].
>
> After each TE is acquired, the Design–Builder shall submit a complete parcel acquisition file, which includes copies of offer letters, fair market value determinations, fully executed easement documents and/or agreements, the negotiator's signed diary, and a statement signed by the landowner acknowledging receipt of payment in full. Parcel acquisition files shall be submitted to the Department for Approval no later than two Working Days following tender of payment to the landowner.
>
> If the Design–Builder cannot reach an agreement with a landowner for the acquisition, the Design–Builder may request in writing that the Department acquire the easement or easements through condemnation proceedings, at the expense of the Design–Builder.

In most circumstances, design–build projects involve acquisition of temporary rights for preconstruction activities through a combination of voluntary agreements with landowners and, where such agreements are not possible, court-ordered rights-of-entry. Although the procedures differ from state to state, in many cases some mechanism exists for the agency or design–builder to gain access to necessary properties for these types of preliminary activities.[178]

A 2014 California Court of Appeal decision may be indicative of a new trend. In that case, the court held that California's precondemnation right-of-entry statutes are unconstitutional to the extent that they allow the "taking" of a property right without affording the owner statutory and constitutional protections afforded to all condemnees, including the right to a jury trial.[179] The court also held that many activities—such as environmental surveying—constituted takings and, thus, could not be accomplished using the right-of-entry statutes, even though, in the past, such activities had routinely been found to fall within the scope of the right-of-entry statutes.[180] The California Supreme Court granted review of the decision, and a final ruling is pending as of this publication. Regardless of how the California Supreme Court rules, it is important to

[177] The primary concern is that the landowner might later claim it was coerced into granting the temporary interest and raise that as a defense in a later condemnation action.

[178] *See, e.g.*, CAL. CODE CIV. PROC., §§ 1245.010–1245.060, Alabama Interstate Power Co. v. Mt. Vernon-Woodberry Cotton Duck Co., 186 Ala. 622, 650, 65 So. 287, 295 (1913) (discussing precondemnation entry rules under Alabama law); State Highway Comm'n v. Dist. Court, 147 Mont. 348, 412 P.2d 832, 835 (Mt. 1966); Square Butte Elec. Coop. v. Dohn, 219 N.W.2d 877, 881 (N.D. 1974).

[179] *See* Property Reserve, Inc. v. Superior Court, 224 Cal. App. 4th 828, 168 Cal. Rptr. 3d 869 (2014), *review granted, depublished by* Property Reserve, Inc. v. Superior Court, 326 P.3d 976 (2014).

[180] *Id.* at 859, 168 Cal. Reptr. 3d at 893 ("We conclude the entry order for the environmental activities authorizes a taking of a property interest in the nature of a temporary easement that must be acquired in a condemnation suit.").

understand the scope of any temporary rights needed during the planning or environmental review stages, to ensure that statutory authority to conduct such activities exists in the relevant jurisdiction and to check for case law in the jurisdiction that places limits on any such statutory authority.

When these types of temporary rights cannot be obtained voluntarily or through a simple statutory procedure, the project could suffer significant delays while proceeding through the formal condemnation process to obtain such rights. This would be especially problematic for any agency in this position that also lacked quick-take authority, as obtaining simple entry rights could take a year or more.

One key exception may apply with respect to constraints on preconstruction temporary rights. Regardless of any general statutory procedure allowing precondemnation rights-of-entry, many jurisdictions have specific rules concerning access to property by licensed surveyors who are performing a survey.[181] These rules may come in the form of express rights to enter a private property for certain specified activities, or they may merely create immunity from liability for trespass for surveyors performing certain activities.

In summary, where the temporary property interests are on properties that lie outside the final alignment and condemnation will not be necessary, the design–builder should be able to proceed without complying with the Uniform Act so long as the acquisition satisfies all of the criteria for a "voluntary" acquisition.[182] When in doubt as to whether the acquisition qualifies as "voluntary," the better approach is to proceed as if all requirements under the Uniform Act must be followed. It is also advisable to follow the Uniform Act whenever the design–builder needs early access to property within the permanent right-of-way.

4. Design–Builder's Construction Plan Is Different from Assumptions Made by Agency in Setting Acquisition Schedule, Resulting in Request to Modify the Acquisition Schedule

For projects where the procuring agency establishes the acquisition schedule, the contract often includes a provision that requires the design–builder to review the schedule promptly after the contract is awarded and to consult with the agency regarding any desired changes in priorities. To the extent that the schedule is driven by allocation of agency resources, the agency may be able to modify the schedule, but in some cases the schedule may be set based on factors outside the agency's control, in which case the agency may not be able to accommodate the design–builder's requests. Such a provision is generally considered beneficial for the project, because it provides greater flexibility to the design–builder and ensures that the agency's resources are deployed more efficiently.

Section 9.1 of the UDOT I-15 CORE General Provisions includes the following clause identifying a process for developing agreed-upon modifications to the acquisition schedule:

> Prior to NTP2 and concurrent with the development of the Project Schedule, the Design–Builder may request the Department to re-prioritize the sequence of ROW acquisition to better accommodate the Design–Builder's performance of the Work. The Design–Builder and the Department may agree in writing to revise the ROW Schedule by a no-cost Change Order, which revisions shall be made to the ROW Schedule and Project Schedule.

5. Agency's Acquisition Plan Omits Property Needed for the Project

Whenever the contract documents include a property acquisition schedule, there is a risk that the schedule may not include all of the property necessary for construction of the project. The instructions to proposers governing the procurement process itself usually require proposers to review the contract documents and identify omissions, thus placing a burden on the proposer teams to consider whether the property schedule is complete and to submit a request to the agency either to modify the schedule or to include a provision in the contract addressing the omission. For the Eastern Toll Road project described previously in Section V.E.3, the proposers advised the agency that property would be required outside the right-of-way boundaries established by the owner for drainage purposes, and, as a result, the agency added a provision to the contract that made it clear the agency had the obligation to obtain such property.

UDOT's I-15 CORE General Provisions address the possibility of errors in the right-of-way schedule as follows:

> 9.2.3 Material Errors in Right-of-Way Plans
>
> Upon the Design–Builder's fulfillment of all applicable requirements of this Section 9, and subject to the limitations contained therein, the Department shall be responsible for, and agrees to issue Change Orders: (i) to compensate the Design–Builder for additional costs directly attributable to material errors in the ROW limits indicated in the ROW

[181] *See, e.g.,* CAL. CIV. CODE § 846.5 and CAL. BUS. & PROF. CODE § 8774 (California), MASS. GEN. LAWS ANN. 266 § 120C (Massachusetts), OR. REV. STAT. § 672.047 (Oregon), MO. ANN. STAT. § 327.371 (Missouri), MICH. COMP. LAWS ANN. §§ 54.122–54.124 (Michigan), WIS. STAT. ANN. § 59.73 (Wisconsin). For a more complete list, *see* NSPS Right of Entry Committee Report, dated Sep. 2006, http://www.scpls.net/files/RIGHT_OF_ENTRY_CMT_REPORT_10_2006.pdf (last visited June 29, 2015). Use caution before relying on the 2006 Report, as rules may have changed in some jurisdictions.

[182] *See* § V.A.5 (Relocation and Assistance).

> Plans; and (ii) to extend the Completion Deadlines as the result of any delay in the Critical Path affecting a Completion Deadline caused by any such errors. The Design–Builder shall provide written notice to the Department immediately upon discovery of any such material error. The Department, in the Department's sole discretion, shall have the right to cure any such error such as by acquiring additional property.

6. DSCs Resulting in Need to Acquire Additional Property

Site conditions risk is often a major topic of discussion during the industry review process for design–build projects, with the procuring agency typically interested in shifting maximum risk to the design–builder and the proposers taking the position that transfer of such risk is not cost-effective. Many agencies include provisions in their design–build contract documents that limit their responsibility for DSCs to errors in the agency's boring data (i.e., Type 1) and unusual subsurface conditions (i.e., Type 2).[183] DSCs may also include previously unidentified subsurface utilities. Many design–build contracts provide for the procuring agency to bear the risk if major underground utilities are discovered during final design and construction that were not anticipated as of the proposal due date. In at least one state, public agencies are subject to a statutory requirement to identify such facilities in the plans and specifications for their construction contracts.[184] The risk of differing surface (as opposed to subsurface) conditions is often transferred to the design–builder.

In many cases, additional work is required to be performed due to discovery of differing conditions (including discovery of unanticipated utilities), and such conditions may also delay the project schedule. Differing conditions may also necessitate a change in the design or result in increased right-of-way acquisition costs. One interesting example can be seen in the following problem that arose during the process of developing the San Joaquin Hills Toll Road in Orange County, California. During the period between award of the design–build contract and start of roadway construction, the developer of adjoining property modified its subdivision plan to include additional lots, placing fill on property adjacent to the planned right-of-way to support the new lots. This increased the cost of building the toll road as originally planned, since the original plan did not contemplate the need to provide lateral and subjacent support for the additional lots. The design–builder and owner, working together, evaluated solutions that included building a tie-back wall, as well as the possibility of removing the fill and acquiring the affected lots. The solution that was ultimately adopted involved building a large mechanically stabilized earth (MSE) wall and purchasing sliver parcels from the affected lots.

7. In Developing the Design, It Becomes Apparent that a New Utility Easement Will Be Needed

Utility relocations present a major risk for transportation projects, largely because relocations require the cooperation of utility owners, and there is always the risk of finding unknown utilities. Utility relocations involve complex issues relating to property rights. When the utility owner holds "franchise" rights (often the case for utilities within public rights-of-way), the utility owner may be obligated to relocate its facilities at its own expense. If, however, the utility owner has "prior rights" (usually in the form of an easement granted by a property owner, or reserved in a grant deed), the transportation project owner will likely be required to pay for the relocation, potentially including the need to acquire an easement for the benefit of the utility owner in connection with relocation. A utility easement, strictly speaking, is not part of the transportation project right-of-way, as title to the easement is held by a third party (namely, the utility owner). Nevertheless, a utility easement is a property right and therefore raises many of the same issues as right-of-way acquisitions. Many design–build contracts deal with utility easements by treating them in the same way as rights-of-way.

It is not uncommon for staff and consultants representing transportation agencies to ask whether the agency can opt to pay for utility relocation costs. Part of the logic for this is that it might expedite the project work and avoid confrontation with the utilities. Whether this is possible is dependent upon the rules applicable to the agency. It should be noted that FHWA will participate in the costs of utility relocations only if the federal funds grantee has a legal obligation to pay such costs.[185] In some cases, it may be considered a gift of public funds for a public agency to volunteer to pay costs of relocating utilities with franchise rights. In other cases, the agency

[183] *See, e.g.,* Request for Proposals I-15 CORE, Part 1: General Provisions, § 6.1 Differing Site Conditions, Utah Dep't of Transp. (2009).

[184] *See* CAL. GOV'T CODE § 4215, obligating public agencies to "assume the responsibility, between the parties to the contract, for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the site of any construction project that is a subject of the contract, if such utilities are not identified by the public agency in the plans and specifications made a part of the invitation for bids." It seems possible that this statute was intended to apply only to design–bid–build contracts, as opposed to contracts where the plans and specifications are provided by a design–builder, and it should be noted that the statute does not include any provisions prohibiting contractors from waiving the benefit of the statute.

[185] *See* 23 C.F.R. § 645.103(d).

may be required by law to pay utility relocation costs without regard to the nature of the utility owner's interest.[186] It may also be possible for a transportation agency to avoid the need to undertake detailed title evaluations by entering into a master agreement with utility owners that establishes a predetermined approach to cost sharing.[187]

Utility relocations can often be accommodated within the project right-of-way, in which case a utility owner with prior rights would receive a replacement easement within the right-of-way. However, for various reasons, it may be necessary to relocate the facilities to an easement outside the right-of-way. Ideally, the need for any utility easements will be determined before award of the contract and included in the initial schedule for property acquisitions. If this does not occur, or if circumstances change, additional costs and delays are likely.

Design–build contracts often require the design–builder to pay the cost of utility easements if the design–builder makes the choice to locate the facility outside of the right-of-way. They will sometimes require the design–builder to pay some or all of the cost of utility easements regardless of the reason the easement is required—serving to encourage proposers to identify errors in the property acquisition schedule during the pre-proposal period. This also helps to act as an incentive for the design–builder to produce an effective design.

8. Design–Builder Submits ATC or Value Engineering Proposal that Avoids the Need to Acquire a Particular Parcel

Design–build procurements often give proposers the opportunity to propose ATCs.[188] As previously discussed in this section, proposers may submit ATCs that avoid the need to acquire a particular parcel. In most cases, if such an ATC is proposed, the cost savings to the agency is considered as part of the technical evaluation. Although several agencies have considered the cost savings as part of the price proposal evaluation, most decide not to adopt that approach due to the uncertainty of determining the amount of the savings. If the project involves transfer of responsibility for property acquisition costs to the design–builder, this becomes a non-issue, as the design–builder would be able to account for the estimated savings in its pricing.

As noted previously in this section, VE provisions found in some contracts, including the UDOT I-15 CORE contract, would allow the design–builder to share in the agency's cost savings that result from not having to pay right-of-way costs.

9. Political Decision to Change the Alignment

As discussed in Section V.D.6, the risk of a political decision to change the alignment following award is relatively low for contracts awarded after the final environmental approvals have been obtained. In such a case, the procuring agency has a greater ability to manage this risk than the design–builder, and it thus appears appropriate for such an alignment change to be treated as an owner-directed change.

With respect to contracts awarded prior to issuance of environmental approvals, the contract should include provisions that limit the scope of work to be performed by the design–builder prior to the final NEPA decision and avoid the need to pay for work that may later prove to be unnecessary. If the contract is awarded early in the environmental process, the project owner should consider which types of changes may occur and include provisions in the contract to facilitate negotiation of a change order if the alignment is changed. Absent unusual circumstances, it would not make sense to allocate the political risk of an alignment change to the design–build contractor, due to the high contingency that proposers would likely include in the contract price.

New Jersey Transit's (NJT) Hudson–Bergen Light Rail Transit project provides a notable example of an alignment change following award of a design–build contract. NJT entered into a design–build–operate–maintain contract for the project in October 1996, based on a preferred alignment selected by NJT in 1993 and approved by the Federal Transit Administration in a record of decision issued in October 1996.[189] In January 1997, New Jersey's governor made a decision to shift the project alignment to reduce impacts on downtown Hoboken, thereby reducing the need for track to be embedded in streets and also reducing property acquisition costs.[190] The design–build contract for the project allocated the risk of delay in property acquisitions to NJT, but, because the alignment

[186] *See, e.g.,* CAL. PUB. UTIL. CODE 100131, granting eminent domain rights to the Santa Clara Valley Transportation Authority and requiring the agency to pay "the cost, exclusive of betterment and with credit for salvage value, of removal, reconstruction, or relocation of any structure, railways, mains, pipes, conduits, wires, cables, or poles of any public utility which is required to be moved to a new location."

[187] *See, e.g.,* Caltrans master agreements with utility owners.

[188] For a discussion of various issues relating to ATCs, see NCHRP Synthesis 455.

[189] Fed. Transit Admin., Northern New Jersey/Hudson-Bergen LRT MOS-1 (2000), *available at* http://www.fta.dot.gov/12304_3062.html (last visited June 29, 2015).

[190] OFFICE OF INSPECTOR GENERAL, REPORT TO FEDERAL TRANSIT ADMINISTRATION ON TRANSPORTATION INVESTMENT PROJECTS MANAGEMENT AND OVERSIGHT (Report No. RT-2000-063, 2000), *available at* https://www.oig.dot.gov/sites/default/files/rt2000063.pdf (last visited June 29, 2015).

change occurred early in the design–build process, the design–builder had not yet performed significant design work and had flexibility to deal with the change. As a consequence, although the change delayed completion of the affected portion of the project, it did not have a material effect on the total project cost.[191]

G. Proposed Federal Rulemaking May Mitigate Some Risks of Uncertainty

During the 12-plus years that have passed since FHWA promulgated its design–build rule, federal funds grantees, their contractors, and FHWA have had the opportunity to evaluate how the existing federal regulations that relate to right-of-way acquisitions affect design–build projects. As discussed in Section V.C (FHWA Rules Relevant to Design–Build Contracts), FHWA has received a number of comments over the years asking for changes to the regulations. In November 2014, FHWA announced proposed changes to the rules to, among other things, better address right-of-way needs in the design–build context.[192]

If approved in the form that exists as of this publication, the new regulations will streamline the right-of-way process for design–build projects, making compliance simpler, while at the same time somewhat increasing the flexibility provided to design–build project participants.

The most significant change may be the updates to what is currently known as 23 C.F.R. § 710.313 (to be renumbered as 23 C.F.R. § 710.309). The current § 710.313 contains a laundry list of requirements the design–builder must comply with if the design–builder assumes responsibility for right-of-way acquisitions. The proposed § 710.309 simplifies the process by removing most of those requirements. Instead, the design–builder would be required to certify that it will comply with the FHWA-approved right-of-way manual for the state in which the project is located.[193] As an alternative, if the project has an approved Real Estate Acquisition Management Plan (RAMP), the design-builder can certify that it will follow the approved RAMP.[194] The proposed regulations contain provisions that allow local transportation agencies to develop their own right-of-way manuals and to thereafter follow (and have their design–builders follow) their own manuals.[195] This serves to bring design–build projects more in line with traditional design–bid–build projects in terms of how right-of-way acquisitions are handled. It also means that, as states update their right-of-way manuals, the requirements for design–build projects will also change without the need to update the FHWA regulations.

The proposed regulations also create a mandatory "hold off zone" around properties that have not been vacated by the time construction commences.[196] Under existing regulations, a hold off zone is optional as a means of protecting the quality of life of occupants who have not yet been relocated when construction commences.[197] In addition, in place of a longer, more technical list of requirements, the new regulations contain a simple provision about preserving quality of life: "Contractors activities must be limited to those that the grantee determines do not have a material adverse impact on the quality of life of those in occupied properties that have been or will be acquired."[198]

The proposed regulations also offer flexibility regarding early acquisition activities (i.e., acquisitions prior to NEPA compliance). The changes are designed to implement early-acquisition flexibility provided for in the Moving Ahead for Progress in the 21st Century Act (MAP-21),[199] but not yet existent in the implementing regulations. The proposed regulations contain provisions for early acquisitions using: 1) no federal funds, 2) state funds subject to federal reimbursement, or 3) regular federal funds. The most significant change involves "Federally funded early acquisition."[200] Despite having many conditions and

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[191] *Id.*

[192] *See* prop. 23 C.F.R. § 710.309(d)(1), 79 Fed. Reg. 69997, 69999 (Nov. 24, 2014).

[193] *Id.* The Executive Summary for the proposed regulations describes this aspect of the update as follows:

> The revisions proposed in this NPRM (proposed § 710.309) would eliminate many of the detailed requirements that address individual ROW activities. Under the proposal, a design–build contractor handling acquisitions directly would be required to certify that it will comply with the SDOT ROW manual or an approved RAMP. Most often, the design–build contractor would certify it will comply with the SDOT ROW manual. The FHWA believes this approach will provide the same protections as the current regulation because the approved ROW procedures, whether in an SDOT ROW manual or an approved RAMP, include the full range of applicable procedures and requirements.

Id.

[194] *Id.*

[195] *See* prop. 23 C.F.R. § 710.201(c)(1) & (d), 79 Fed. Reg. 69999,70005 (Nov. 24, 2015)..

[196] *See* prop. 23 C.F.R. § 710.309(d)(2), 79 Fed. Reg. 69997, 69999 (Nov. 24, 2914). The Executive Summary describes the purpose for this change as follows: "The FHWA believes this change will help ensure that potential impacts not currently listed in regulation are addressed, and that the SDOT and contractor focus on outcomes rather than technical compliance issues."

[197] *See* 23 C.F.R. § 710.313(d)(3).

[198] *See* prop. 23 C.F.R. § 710.309(d)(3), 79 Fed. Reg. 69997, 70025 (Nov. 24, 2014).

[199] *See* 23 U.S.C. 108, as revised by § 1302 of Pub. L. No. 112-141, July 2012 (the Moving Ahead for Progress in the 21st Century Act).

[200] *See* prop. 23 C.F.R. § 710.501(e), 79 Fed. Reg. 69997, 70028 (Nov. 24, 2014).

requirements, this proposed change allows agencies, under certain circumstances, to use federal funds to acquire property prior to receiving NEPA clearance. To use this new option, the state must certify, and FHWA must concur, that all applicable conditions have been met.

One key requirement is that the acquisition not affect the environmental review and, in particular, that it will not "limit the choice of reasonable alternatives for a proposed transportation project or otherwise influence the decision of FHWA on any approval required for a proposed transportation project,"[201] or "prevent the lead agency from making an impartial decision as to whether to accept an alternative that is being considered in the environmental review process for a proposed transportation project."[202]

Another key is that the acquisition must be voluntary. In other words, to use federally funded early acquisition, the property may not be acquired through use of eminent domain.[203] This limitation does not exist if the agency seeks to use state funds for the early acquisition, regardless of whether the agency intends to have the state funds be eligible for future credit (i.e., subject to later federal reimbursement or as credit for part of the required state funds for the project). The limitation on the use of eminent domain only applies when the agency seeks to use federal funds in the first instance.

The proposed regulations are not without controversy. With respect to the proposed rule that allows agencies other than the state to formulate a right-of-way manual and allows agencies to craft RAMPs on a project-by-project basis, the California Department of Transportation (Caltrans), at least, believes that, rather than streamlining the process, the new regulations will cause project delays. In particular, Caltrans objects that this added flexibility would create a "devastating" change in its required oversight, explaining that "[Caltrans] is not sufficiently staffed for such review and it would cause numerous delays to project delivery."[204]

AASHTO also raises concerns. With respect to the procedures concerning early acquisition activities, AASHTO notes that the Proposed Regulations contain "a list of factors that FHWA will consider, in its discretion, when deciding whether to approve a federally funded early acquisition."[205] AASHTO believes that these factors, when considered in conjunction with the existing factors to be considered during the certification process, as set forth in 23 C.F.R. § 710.501(e)(1)-(4), "could discourage States from even seeking authorization for a federally funded early acquisition,"[206] as opposed to facilitating more early acquisition efforts.

As of the publication of this digest, it remains to be seen whether the proposed regulations will be approved and, if so, whether the concerns raised by Caltrans, AASHTO, and others will be taken into account in adopting the final regulations.

VI. DESIGN–BUILD CASE LAW ADDRESSING DESIGN AND CONSTRUCTION LIABILITY

Section II provided an overview of liability issues arising from the design and construction process and a discussion of the *Spearin* doctrine. This section reviews court decisions resulting from design–build projects that address problems associated with the design and construction process. Before discussing these cases, it is important to note that design–build legal precedent remains very much a "work-in-process." This is partly because:

- There has been a strong tendency over the past 20 years for construction disputes to be settled in mediation or through other nonbinding processes (e.g., dispute review boards).
- Disputes that are not settled are often formally resolved in binding arbitration proceedings, which are confidential and result in orders that are not generally available to the public.

Although settling disputes and using arbitration are positive developments for the construction industry, the downside is that they deprive the industry of a broad body of published opinions that explain how courts view liability.

The downside is compounded in the case of newer delivery systems such as design–build, as well as for such concepts as lean construction, Building Information Modeling, and green design and construction. Conflicts in these areas can be complex and often leave the parties in "uncharted waters" as to which party has the better legal position. This creates even more incentive for the parties to settle their disputes.

As a result of these factors, many design–build disputes are decided with little or no precedent. To the

[201] *See* prop. 23 C.F.R. § 710.501(e)(2)(iv), 79 Fed. Reg. 69997, 70028 (Nov. 24, 2014).

[202] *See* prop. 23 C.F.R. § 710.501(e)(2)(v), 79 Fed. Reg. 69997, 70028 (Nov. 24, 2014).

[203] *See* prop. 23 C.F.R. § 710.501(e)(2)(viii), 79 Fed. Reg. 69997, 70028 (Nov. 24, 2014).

[204] *See* Caltrans comments to Notice of Proposed Rulemaking, Jan. 23, 2015, at 2, ¶ 1, available at http://www.regulations.gov/#!documentDetail;D=FHWA-2014-0026-0019 (last visited June 29, 2015).

[205] AAASHTO comments to Notice of Proposed Rulemaking, Jan. 23, 2015, available at http://www.regulations.gov/#!documentDetail;D=FHWA-2014-0026-0016 (last visited June 29, 2015).

[206] *Id.*

extent that precedent exists, it is often from decisions by the federal boards of contract appeals and federal courts having jurisdiction over federal government contracts (e.g., the U.S. Court of Federal Claims). As for the handful of reported design–build cases within each state, readers should be aware that many of them range from very complex projects with sophisticated parties (e.g., power plants) to home builders, who are often charged with different legal responsibilities than commercial design–builders.

This background is not intended to suggest that there is nothing to be gained by considering how design–build case precedent applies to state court transportation cases. To the contrary, the cases discussed in this section offer some important lessons on how to evaluate potential liability and may be considered by arbitrators and state courts as they evaluate a particular case.

A. Errors in Owner's Preliminary Design

As discussed in Section II, an owner's liability under the *Spearin* doctrine is well-established when the owner's design documents contain errors that the contractor could not reasonably determine during bidding. Owners have attempted to argue that *Spearin* is not applicable to design–build, as the owner is not providing a final design. They have also used disclaimer language like that discussed in Section III in an attempt to contractually shift to the design–builder the risk of errors in their RFP documents.

To date, courts that have considered this issue have largely ruled against owners. They have found that the principles behind the *Spearin* doctrine apply to any situation where an owner provides a detailed specification that has been reasonably relied upon by a bidder to the bidder's detriment. The fact that a design–builder will ultimately be the designer-of-record does not alter this principle.

Appeal of M.A. Mortenson Co.[207] is one of the leading cases that addresses this issue. It involved a design–build contract awarded by the U.S. Army Corps of Engineers to Mortenson for a medical clinic replacement facility at Kirkland Air Force Base in New Mexico. The solicitation contained design documents that were approximately 35 percent complete and informed proposers that such documents expressed the minimum requirements for the project. The Corps' design criteria stated that "[these] requirements may be used to prepare the proposals." The Corps-furnished design documents contained a number of options for structural systems, as well as calculations for them.

Mortenson's estimators, in originally pricing the work, did a take-off of the structural concrete and rebar quantities indicated in the solicitation design documents. The final design was similar to the one shown in the solicitation and was approved by the owner. Mortenson ultimately submitted a request for equitable adjustment based on the increased quantities of concrete and rebar associated with building to the final design. The Corps rejected the claim, believing that, because of the fixed price nature of the design–build contract, Mortenson assumed the risk of any cost growth resulting from these quantities.

The Armed Services Board of Contract Appeals agreed with Mortenson, finding that, although the solicitation did not require the proposers to use the information in the drawings, it did not indicate that the information was to be used at the proposer's risk. The board held that Mortenson acted reasonably in relying on the technical information provided by the Corps. It rejected the notion that Mortenson was obligated to place a contingency in its bid or have an engineer involved in the proposal process:

> The Government suggests that "some sort of review by a structural engineer would have been prudent."…It also suggests that [Mortenson] should have included a contingency in its proposal to cover any increase in quantities. This interpretation is not reasonable. It was not established as a factual matter that an interpretation of the solicitation requiring preproposal engineering or a contingency for the quantities in question in this appeal would be reasonable and prudent from a contractor's point of view. The contract required [Mortenson] to verify and validate the design as part of the design work, not the proposal effort.[208]

In so ruling, the board concluded that the government had warranted the adequacy of information in the solicitation design documents.

Because the *Mortenson* solicitation documents specifically stated that the design could be used for pricing purposes, the precedential value of the case could have been quite narrow. However, later cases that examined allegedly defective design specifications on design–build projects cited *Mortenson* and *Spearin* as authority for finding that the owner impliedly warrants these specifications.

Consider *White v. Edsall Construction Company, Inc.,*[209] which involved the construction of an aviation support facility for the Army. The issue in dispute was the design of the storage hanger tilt-up canopy doors. The drawings showed a three-point pick system to lift the doors. The design–builder eventually concluded that the three-point system was deficient and made a claim for its costs in modifying the lifting system. Arguing that the three-point pick system was a performance specification,

[207] ASBCA No. 39978, 93-3 B.C.A. ¶ 26,189, 1993 ASBCA LEXIS 222 (June 30, 1993).

[208] *Id.* at 17.

[209] 296 F.3d 1081 (Fed. Cir. 2002).

the government claimed that responsibility for the deficient system was to be borne by the design–builder. It pointed to a note on the canopy door drawings that required the design–builder to verify details and loading prior to bidding.

The court found the three-pick design system to be a defective design specification because of the level of detail in the design:

> If the three-pick-point design had been merely a performance specification (i.e., it did not specify an actual method of performance), Edsall could have chosen any method of building a workable tilt-up canopy door, including a four-pick-point design. Because the Army made the three-pick-point door design, including the weight distribution to points on the truss, a design requirement, it warranted the adequacy of the design. The Army is thus responsible for the consequences of design defects absent an express and specific disclaimer shifting the design risk to Edsall.[210]

Citing *Spearin*, the court concluded that the design–builder was entitled to recover its costs in remedying this defect.

Another well-recognized design–build case, *Appeal of Donahue Electric, Inc.,*[211] relied upon both *Mortenson* and *Spearin* to find in the design–builder's favor with respect to defective owner design documents. The dispute revolved around the requirements for a steam boiler to power a sterilizer on a Veterans Administration's (VA) ambulatory care center. The 50 percent design documents furnished with the RFP specified that the design–builder was to install a government-furnished sterilizer unit manufactured by Steris. The contract's HVAC equipment schedule listed a Parker B-3 steam boiler to power this sterilizer. The Parker B-3 is a 7HP boiler. During design development, the design–builder concluded that the 7HP boiler would not meet the instantaneous burst requirements of the Steris equipment. After it was agreed that a 25HP boiler would be supplied, the design–builder argued that it should be entitled to the additional costs associated with the change to the 25HP boiler.

The government rejected the claim, believing that the design–builder had no right to rely on the VA's 50 percent drawings because the "information only" note on the drawings effectively prevented bidders from using or relying on the drawings in any way. It concluded that the design–builder should have obtained the Steris sterilizer specifications, developed its own design, and purchased whatever was necessary for the installation of the VA-furnished sterilizer.

The VA Board of Contract Appeals disagreed with the government, holding it liable for the additional cost of upsizing the boiler, stating:

> Specifications included in a design–build contract, however, to the extent specific requirements, quantities and sizes are set forth in those specifications, place the risk of design deficiencies on the owner. Thus, the VA reassumed the risk and warranted the accuracy of the specifications with regard to the 196LB/hr boiler output.[212]

Using logic similar to that seen in *Edsall*, the board acknowledged that the government could have transferred the risk of design defects to the contractor by drafting the boiler requirement as a pure performance specification rather than by including a prescriptive design requirement:

> The VA could simply have stated, "install the Steris 3400 GFP sterilizer and a boiler to operate it." Such a specification would have made [the design–builder] responsible for choosing a boiler that would properly operate the sterilizer. When, as here, the VA specifies a 196LB/hr boiler, absent actual knowledge to the contrary a bidder may rely on that information.[213]

As of the date of this digest, no state court cases appear to have considered the enforceability of an owner's disclaimer of liability for the preliminary designs that it furnishes during the proposal period. If state courts follow the rationale of the federal court cases previously discussed, then some of the clauses quoted in Section III may not be read as literally as the agencies would like. If they do not follow the reasoning of the federal courts, then it is possible that the design–builder will bear the risks of wrong or inadequate owner-furnished information.

As discussed in Section III, the protections afforded design–builders under the *Spearin* and *Mortenson* line of cases have extended to design–builders that discovered errors in the owner's preliminary design during the design development process, corrected the errors, and then sought recovery for the consequences of the errors. The authors are not aware of any case law where the design–builder based its design on an owner's defective design, constructed that defective design, and then later attempted to absolve itself from liability for that defect.

Finally, it should be noted that, although the *Mortenson* line of cases gives a design–builder an opportunity to make a claim under *Spearin*, the ability to succeed on that claim is premised upon the reasonableness of the design–builder's interpretation of the agency-furnished information. In *Appeal of Lovering-Johnson, Inc.,*[214] the design–builder on a Navy housing project in Illinois was not able to prove that its interpretation was reasonable. As a result, the Armed Services Board of Contract Appeals largely denied the design–builder's claim for more than $6.8 million and 267 days of alleged delays.

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[210] *Id.* at 1085-86.

[211] VABCA No. 6618, 2003-1 B.C.A. ¶ 32129, 2002 VA BCA LEXIS 13 (Dec. 27, 2002).

[212] *Id.* at 34–35.

[213] *Id.* at 35.

[214] ASBCA No. 53902, 2006-1 B.C.A. ¶ 33126, 2005 ASBCA LEXIS 98 (Nov. 17, 2005).

The claim was largely based on issues that arose during the design phase, which resulted in the design–builder, Lovering-Johnson, Inc. (LJI), submitting its final design drawings to the Navy 15 months later than planned. One of LJI's primary arguments was that the Navy required it to perform "unfunded preliminary design studies," including on the project's storm drainage system. The contract's performance specifications required that the system be capable of handling a 10-year storm and runoff from adjacent properties. In preparing its design, LJI relied on certain solicitation drawings by the Navy, which depicted various-sized drainage pipes. LJI contended that, due to an alleged DSC of high flow rates and large culverts, it ultimately had to use wider pipes in its design than those shown on the initial drawings. The Board rejected LJI's claim on several grounds, stating: "Fundamentally, [LJI] misconstrues the extent of its design responsibility.…[its] differing site conditions (DSC) allegations are premised on the view that the Navy had already done the storm drainage design work for it."[215]

According to the board's decision, an adequate site investigation would have revealed the presence of the twin 60-in. culverts and potentially "huge flows" from off-site water sources. In addition, the board believed LJI's reliance on the drawings was misplaced given that the solicitation drawings were not detailed and the pipe systems identified were ambiguous. Importantly, the board concluded that the Navy's RFP design was not "final" and that its RFP package expressly identified that any concepts and information contained therein would have to be verified prior to LJI's development of the "final" design. Stated differently, it was LJI, not the Navy, which was responsible for designing the drainage system.[216]

B. Conflicts Between Owner's Design and Performance Specifications

Some owners have attempted to argue that *Mortenson* and *Spearin* should not apply when the design–builder's claim is based on a performance specification's prescriptive element that is in conflict with the overall performance specification. To date, this argument has failed when the conflict could not be readily determined during the bidding process. Importantly, these decisions conclude that a proposer does not have to go through an engineering effort during the proposal stage to determine that the agency's solicitation design is flawed.[217]

J.E. Dunn Construction Co. v. General Services Administration,[218] which involved a curtain wall dispute on a new federal courthouse in Kansas City, Missouri, demonstrates this point. This project contained a number of creative architectural design elements, including an innovative, complex curtain wall that rested on columns four stories high, extended another three stories to the penthouse, and was semi-circular in shape.

The curtain wall specifications contained a mixture of design and performance requirements. For example, the solicitation stated that the drawings and specifications were "an outline of the criteria and performance requirements"[219] of the work and "within these parameters the contractor is responsible for the design and engineering of the window system."[220] The specifications also stated that the curtain wall was to be designed to accommodate, among other things, "27mm maximum long term depiction (creep) at edge of structure at the midpoint between columns."[221]

As it was developing shop drawings, the curtain wall subcontractor determined that the curtain wall would not accommodate the long-term creep limitation. It argued that the costs to overcome this problem should be borne by the government, since the design, shapes, and profiles of the curtain wall's aluminum members were prescribed in the contract and one could reasonably assume that the government had evaluated concrete deflection in conjunction with this design. The government countered by claiming that the contractor had the responsibility to determine the means and methods of accommodating deflection in its design of the curtain wall system. It cited contract language that the solicitation's drawings were merely "diagrammatic," and further claimed that "the drawings were only the starting point, to be modified at the discretion of the contractor to meet the deflection criteria."[222]

The General Services Board of Contract Appeals rejected the government's position on the basis that the *Spearin* doctrine governed, notwithstanding that a combination of design and performance specifications

[215] *Id.* at 58.

[216] This case addressed two other topics that are addressed in this section—design review processes and the ability of LJI to make changes to the design included in its proposal.

[217] See cases cited in MICHAEL C. LOULAKIS, LEGAL ASPECTS OF PERFORMANCE-BASED SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND MAINTENANCE CONTRACTS (Nat'l Cooperative Highway Research Program, Legal Research Digest No. 61, Transportation Research Board, 2013).

[218] GSBCA No. 14477, 2000-1 B.C.A. ¶ 30806, 2000 GSBCA LEXIS 41 (Mar. 2, 2000).

[219] *Id.* at 8.

[220] *Id.*

[221] *Id.* at 10.

[222] *Id.* at 39.

was involved. It noted that the contractor's discretion was confined by the requirements shown on the drawing details, and that any modifications to the curtain wall design had to conform to these details:

> We thus cannot agree with the Government's argument that the drawing details were merely schematic, or that the written specifications subordinated the drawing details to the performance requirements. The argument may be an example of the wish being father to the thought, but it was simply not the way the contract was written. … The mullions for the north and south curtain walls were dimensioned and considerably detailed in the drawings, leaving little discretion to the contractor as to how to fabricate the mullions.[223]

The board ultimately concluded that the curtain wall contractor could not produce curtain wall mullions that met the design specifications while at the same time meeting the deflection criteria's performance specification.

The board also rejected the government's argument that this defect had to be discovered during the bidding process and that the contractor had a duty to seek clarification before submitting a bid. It noted that none of the six curtain wall subcontractors that submitted bids noticed the defect. It further observed that even the government's architect did not discover the defect during its initial review of the curtain wall's sketches before shop drawing submission. The decision stated that it took the curtain wall subcontractor's engineering expert 20 hours of engineering study to discover the defect, and it then took additional structural engineering to determine the design and shape of mullion that would accommodate the deflection criteria: "A reasonably prudent construction contractor is not expected to become an amateur structural engineer and hunt down defects in Government design drawings upon which the contractor has been told to rely, especially given the relatively short—one month—time to prepare bids."[224] Based on this, the board concluded that the design defect was "latent" (hidden) and that the government bore the liability for overcoming this defect.

A similar result was reached in *Trataros Construction, Inc.,*[225] which involved conflicts between design and performance specifications on the renovation of the U.S. Post Office and Courthouse in Old San Juan, Puerto Rico. The performance specification was established through the shop drawing requirements, which directed the contractor to develop shop drawings that were sealed by a professional engineer. By submitting sealed shop drawings, the contractor was certifying that its design complied with building code requirements and other performance criteria.

The contractor's scope of work included a performance specification for the fabrication and installation of fiberglass panels that replicated the building's wood roof cornices. Engineered shop drawings were to include any necessary design changes to the support structures and the attachment points for the cornices. In addition to the performance specification, the contract also contained various design specifications associated with this cornice work, including specific directions for design of the stainless steel support structure and location of the attachment points.

Before the contractor started the cornice work, it discovered that this work could not be performed as specified in the contract documents. Its structural engineer determined that several parts of the structure needed modification to carry the required loads, particularly the weight of the fiberglass. The engineer also concluded that the number of attachment points shown on the contract drawings was inadequate to prevent the fiberglass from sagging. Because this engineer would not approve the design without making necessary changes, the shop drawings submitted to the government were different in many material respects from the original contract requirements. Although the government eventually approved these shop drawings, it denied the contractor's claim for the additional money associated with the revisions to the contract requirements, relying on the contractor's contractual obligation to meet the performance specification.

The General Services Board of Contract Appeals rejected the government's performance specification defense. The board was favorably impressed by the fact that the contract documents gave the contractor specifics on what was expected in key areas:

> The drawings told Trataros to construct the support structure using stainless steel angles of a certain size, configured a particular way, connected in a particular way, and running in specified directions. The drawings said that the structure was to be attached to the building using stainless steel bolts of a specified diameter, and showed the configuration of that attachment. The drawings showed Trataros where to use clip angles and where to install bolts to hold the support structure's angles and clip angles together.[226]

These and other detailed specifications led the board to conclude that the contract documents and specifications, read together, did not leave the design and location of the fiberglass system to the contractor's discretion:

[223] *Id.* at 45.

[224] *Id.* at 53.

[225] GSBCA No. 14875, 2001-1 B.C.A. ¶ 31,306, 2001 GSBCA LEXIS 40 (Feb. 21, 2001).

[226] *Id.* at 27.

> Although the contract required Trataros to supply shop drawings, this did not provide Trataros with any flexibility concerning either the design of the support structure or the location of the attachment points for the fiberglass panels. …Trataros's obligation was to provide a support structure and to attach the fiberglass panels as shown on the drawings. Trataros was not obligated by the contract, however, to correct any design problems contained in the drawings.[227]

Similar to the conclusion reached in *Dunn*, the board rejected the government's argument that the contractor should have assessed the risks associated with this cornice work before committing to a price. There was no evidence that the contractor or its team knew the extent of the engineering problems before pricing the work. The board stated: "Trataros…did not have any contractual obligation to provide engineering services in order to determine the adequacy of the design shown in the drawings before it proposed a price for performing the cornice work."[228] Given these factors, the board awarded the contractor an equitable adjustment for the consequences of dealing with the defective design specifications.

C. Geotechnical Design Scope and DSCs

A variety of cases have considered geotechnical design claims on design–build projects. Many arose in the context of a DSC claim asserted by the design–builder, and some specifically addressed the enforceability of the agency's disclaimer of liability for the RFP's geotechnical information. Others addressed conflicts that occurred between the owner and design–builder during the design development process for foundations and other geotechnical matters.

1. Geotechnical Disclaimers

As noted in Section III, many design–build contracts require that the design–builder conduct, as part of its design process, a comprehensive geotechnical assessment of the site. Many design–build contracts also include broad disclaimers of liability for the geotechnical information furnished by the owner during the procurement process. As a consequence, when a design–builder claims that it encountered a DSC based on the owner's geotechnical information, the owner argues that the claim should be denied because: 1) the geotechnical information it provided was preliminary and incomplete and, based on contractual disclaimers, could not be relied upon by the design–builder; and 2) the design–builder had the contractual duty to perform the full geotechnical assessment.

This argument was essentially what the Navy used in *Metcalf Construction Co. v. United States,*[229] one of the most well-publicized U.S. construction law cases in decades.[230] Although the trial court agreed with the Navy, the Court of Appeals for the Federal Circuit reversed the trial court's decision and provided an informative opinion as to how DSC claims are to be treated on design–build projects.

Metcalf involved a Navy procurement for a $48-million housing facility at a Marine Corps base. The RFP included a soils report that identified the soils as having "slight expansion potential" and noted that this was relevant to certain features of the project, such as concrete foundations. It also stated that the soils report was for "preliminary information only," with the contract obligating the design–builder to conduct its own soils investigation after contract award.

After award, Metcalf's geotechnical engineer discovered that the soil's swelling potential was "moderate to high" (i.e., not "slight"), and recommended some design changes to deal with those conditions. Metcalf promptly notified the Navy, and the parties then had protracted discussions over what to do. Almost a year after the issue arose, the Navy rejected the DSC claim, and Metcalf used post-tension concrete slabs to mitigate the time and cost of over-excavating and importing select fill.

Another soils issue involved the presence of chlordane, a chemical contaminant. The RFP stated that chlordane was present at the site but remediation actions would not be required because the levels were deemed "acceptable." Metcalf later discovered soils with higher levels of chlordane than expected and incurred costs to remediate. The Navy refused to reimburse Metcalf for substantial remediation costs. Metcalf's total claim, inclusive of other alleged breaches by the Navy of its duty of good faith and fair dealing, was approximately $25 million.

In ruling in favor of the Navy, the trial court concluded that, because Metcalf had to investigate the soil conditions during performance, Metcalf could not rely on the RFP's representations about the soil characteristics. The Court of Appeals for the Federal Circuit flatly rejected this, finding that the lower court misinterpreted the contract:

> Nothing in the contract's general requirements that Metcalf check the site as part of designing and building the housing units, after the contract was entered into, expressly or implicitly warned Metcalf that it could not rely on, and that instead it bore the risk of error in, the government's affirmative representations about the soil conditions.[231]

The appellate court differentiated between Metcalf's post-award obligation to conduct additional investigations and Metcalf's pre-award right to

[227] *Id.* at 30.

[228] *Id.* at 34.

[229] 742 F.3d 984 (Fed. Cir. 2014).

[230] In addition to the issue of disclaimers, the *Metcalf* decision also addressed the government's implied duties of good faith and fair dealing.

[231] *Metcalf,* 742 F.3d at 996.

reasonably rely on the Navy's geotechnical information as it bid the project. Citing decades-old precedent, the appellate court stated that the DSC clause was incorporated into the contract to "take at least some of the gamble on subsurface conditions out of bidding."[232] It also highlighted that the phrase "for preliminary information only" was not an effective disclaimer.[233] The phrase, the court held, "merely signals that the information might change (it is 'preliminary'). It does not say that Metcalf bears the risk if the 'preliminary' information turns out to be inaccurate."[234]

The appellate court's opinion in *Metcalf* is consistent with substantial precedent that supports the DSC remedy for contractors in spite of disclaimers. In fact, these cases reach as far back as *Spearin*, wherein the U.S. Supreme Court refused to allow a disclaimer to affect its view on who should bear the risk of defective specifications.[235] As a consequence, even though *Metcalf* is not binding on state courts, it is highly likely that a state court would find it to be valuable precedent for dealing with a design–build contract's broad contractual disclaimer for the owner's geotechnical information.

2. Geotechnical Design Requirements

Several relatively recent cases discussed conflicts between owners and design–builders over foundation designs. In *Appeal of PBS&J Constructors, Inc.,*[236] the design–builder filed an appeal to the Armed Services Board of Contract Appeals when the U.S. Corps of Engineers refused to allow it to use spread footings to support balconies on a barracks project. The RFP documents identified drilled piers as a "recommended foundation system." They stated that spread footings were not considered a viable alternative and, therefore, not allowed. The contract required the design–builder's geotechnical engineer to provide design calculations to support its ultimate recommendation. The design–builder's proposal specified that it would use a drilled pier system, but it did not specifically state what would be used for the balconies.

During design development, the design–builder's initial geotechnical report showed that the balconies were supported by concrete piers. The final foundation design, however, contained a revised geotechnical report and showed for the first time the possibility of using spread footing foundations. Based on the record before the board, it appeared the design–builder wanted to use spread footings. It was behind schedule because of installation problems with drilled piers on other areas of the project and was looking to save time and money. The Corps refused to allow this, believing that it was entitled to strict compliance with the contract, which had disallowed spread footings and required deep foundations.

PBS&J argued that the contract was ambiguous, because, among other things: 1) it allowed the use of spread footings for small structures, which, it contended, included a balcony; and 2) the RFP's foundation specifications were not prescriptive, as they used the terms "recommended" and "recommendations," which the design–builder argued were not "requirements." The board rejected PBS&J's ambiguity argument. It was influenced by the fact that, for much of the contract performance period, PBS&J had interpreted the contract as not allowing spread footings for the balconies, as its early designs had shown the use of concrete piers.

The board additionally noted that, if the contract contained ambiguities, they were so obvious that PBS&J should have asked about them prior to bidding. The board found that the Corps had acted reasonably in rejecting the change to spread footings, as the building was on expansive soils, and there was a possibility that balconies supported by spread footings would move more than the rest of the structure, which was supported by the drilled piers.

Contrast the result in the PBS&J case to that in *Record Steel and Construction v. United States,*[237] wherein the dispute also involved whether geotechnical design specifications were a requirement or simply a recommendation. The design–build project involved a dormitory at Offutt Air Force Base in Bellevue, Nebraska. Part of the RFP contained a foundation analysis report, with a section entitled "Subsurface Recommendations." Included in the recommendations was the following language, "Due to the anticipated column loads for a multi-story building, it is believed that improving the site is more viable than reducing the bearing pressure to a very low value….The recommended improvement program is outlined below."[238] The recommended program contained statements that materials be undercut and "should be excavated" from below the bottom elevation of all building footings.

In response to the RFP, the design–builder submitted a price proposal that informed the Corps of Engineers that it did not believe over-excavation for the foundations would be required, but, if site conditions ultimately required over-excavation, it committed to perform this work at no additional cost.

[232] *Id.* at 996.

[233] *Id.*

[234] *Id.*

[235] G248 U.S. at 137.

[236] ASBCA No. 57814, 2014-1 B.C.A. ¶ 35,680, 2014 ASBCA LEXIS 225 (July 25, 2014).

[237] 62 Fed. Cl. 508 (2004).

[238] *Id.* at 511.

The need for over-excavation was discussed during several design meetings both prior to and after contract award. The parties agreed that the design–builder's geotechnical firm was to conduct field investigations and tests and provide such information to both the design–builder and the Corps. If the resulting data were satisfactory, then the design–builder could proceed with its design without conducting over-excavation.

The geotechnical firm concluded that the native soils were adequate to support the building's footings without over-excavation. However, the Corps apparently reevaluated its position and refused to issue a notice to proceed for the footings unless the design–builder agreed to conform to "requirements" of the subsurface recommendations of the Foundation Analysis Report and over-excavate the site. The design–builder complied with this order and submitted a claim for the costs associated with the over-excavation effort.

The design–builder argued that the contract unambiguously made over-excavation a design recommendation—not a design requirement. In the alternative, it argued that if the contract was ambiguous, then the ambiguity was latent and should be construed against the government. The government argued that the contract expressly and unambiguously required the design–builder to over-excavate the foundation. After carefully examining the relevant contract provisions, the U.S. Court of Federal Claims found the contract to be latently ambiguous, and saddled the government with the financial responsibility of the over-excavation.

The court first looked at the reasonableness of each party's contract interpretations. In finding that the design–builder's interpretation was reasonable, it first noted that the design–builder, as the designer-of-record, was expected to exercise its professional judgment in designing the dormitory and had to defer only to specific requirements contained in the RFP, not to recommendations. The court then examined how the "requirements" in the RFP were expressed in terms of words like "shall," "may," and "should."

It found that the most critical aspects of the foundation report used the word "should" instead of "shall"—and that this expressed a desire for action, but not a binding requirement. It looked to the fact that the foundation report stated that the Corps "believed" that over-excavation was "more viable" to improve the site, and couched its report in terms of a "recommendation" rather than as a requirement. The court also found the design–builder's interpretation to be reasonable based on the fact that the Corps' initial borings were not conducted within the actual footprint of the dormitory's location.

The court ruled, however, that the Corps' contract interpretation fell "within the zone of reasonableness."[239] It looked to the fact that the RFP used the verb "shall" in connection with incorporating the foundation report's recommendations into the contract, and that, by referring to the terms "overexcavation and compaction requirements," there was an argument that the RFP expressly converted the foundation report's recommendations into requirements.[240]

Faced with two reasonable contract interpretations, the court then looked to the rule of *contra proferentem* for guidance on who should bear the risk of these ambiguities. The four-part test associated with this rule places the risk of the ambiguities on the government when: 1) the contract specifications were drawn by the government; 2) the language used therein was susceptible to more than one interpretation; 3) the intention of the parties does not otherwise appear; and 4) the contractor actually and reasonably construed the specifications in accordance with one of the meanings to which the language was susceptible. The court found that all of these conditions were satisfied.

The court also refused to apply the exception to the general rule of *contra proferentem* (i.e., the patent ambiguity doctrine), which resolves ambiguities against the contractor when the ambiguities are "so 'patent and glaring' that it is unreasonable for a contractor not to discover and inquire about them."[241] The court did not find this ambiguity obvious, particularly since the Corps had not indicated its view on the mandatory nature of these so-called "requirements" until many predesign meetings between the parties had taken place.

Another case that addresses foundation disputes during design development is *Fluor Intercontinental, Inc. v. Department of State,*[242] which involved a Department of State (DOS) design–build contract with Fluor for an embassy in Haiti. Fluor's $38-million claim included, among other things, a request for relief from DSCs. The RFP documents incorporated a preliminary geotechnical report that indicated that spread footers could be used to support the structure without having to fully undercut the site. This was confirmed by Fluor's geotechnical engineer and was the basis for Fluor's proposal. After award, and as required by the contract, Fluor's geotechnical engineer investigated the site, conducted field testing, and concluded that there were indications that the soil was collapsible, not suitable

[239] *Id.* at 515.

[240] *Id.* at 516.

[241] *Id.* at 517.

[242] CBCA 1559, 13 B.C.A. ¶ 35,334, 2013 CIVBCA LEXIS 99 (May 24, 2013).

for supporting foundations, and should be removed. Fluor notified DOS that the findings constituted a DSC, as the RFP documents gave no indication as to the need to remove all of the soil.

When DOS indicated that it would likely reject the claim, Fluor asked for direction as to how to proceed. DOS refused to do so, stating that, "…this is a design problem….You need to provide an engineering solution that meets the requirements of the contract taking into consideration the questionable bearing capacity of the soil that was clearly noted in the RFP." Fluor ultimately followed the recommendations set forth in its geotechnical engineer's report, removed the upper silt layer of the site, and formally claimed a DSC.

As the dispute proceeded, DOS's soil experts opined that Fluor's engineer's test results were unreliable, not performed in accordance with accepted standards, and did not necessarily indicate collapsible soil. The Civilian Board of Contract Appeals agreed with these experts and held that the soil was not collapsible, "or collapsible to a degree significant to the design of the foundations." Because Fluor did not establish the collapsibility of the soil, the board concluded that Fluor failed to meet its burden of proving that there was a DSC.

Fluor argued that DOS should not have been allowed, "several years after-the-fact," to complain about the adequacy of its testing plan and methodology. The board disagreed, finding that, because DOS had notified Fluor that it did not believe there was a valid DSC, Fluor knew that its claim would be contested. In response to Fluor's argument that DOS was obligated to investigate the site and provide direction once Fluor raised notice of the DSC, the board stated:

> The agency did provide direction, rejecting the conclusion that a differing site condition existed and permitting the contractor to proceed as it deemed appropriate under the design–build contract. The agency is not contending that the ultimate foundation design was improper; rather, the agency contends that it is not obligated to provide additional time and/or money under the contract because the contractor has not established the existence of collapsible soils (that is, no differing site condition has been demonstrated to have existed).[243]

One of the interesting features of the Fluor decision is that it showed how experts can see engineered solutions differently. Fluor's geotechnical engineer appeared to take a more conservative position on potential soil collapses than the government's testifying experts. This was certainly the prerogative of Fluor's engineer, given that he was ultimately responsible for the design. The board's decision, however, appeared to conclude that Fluor's engineer based his finding on faulty test results, and that, had he conducted proper testing, he might have drawn a different conclusion.

Another recent case found that the design–builder failed to demonstrate that it had a differing geotechnical site condition. In *Liquidating Trustee Ester du Val of KI Liquidation, Inc. v. United States,*[244] Kullman Industries, Inc. (KI), contracted with DOS for the design and construction of the Tajikistan embassy. KI was ultimately terminated for default and went bankrupt as a result of the project, in large measure because of the geotechnical costs it incurred.

The parties had a fundamental disagreement over how geotechnical costs were to be treated within the fixed-price contract. KI put very little money in its contract price for foundation and geotechnical work, on the assumption that this work would be treated as an allowance and that the contract price would be increased to reflect the actual costs of this work. DOS did not construe the contracting approach as being open-ended and assumed that KI's fixed price included all geotechnical conditions, subject to any proven DSCs.[245]

Although DOS furnished a geotechnical report that warned of poor and collapsible soil conditions, KI did not conduct any meaningful site investigation prior to award. After visiting the site and conducting some tests post-award, KI's geotechnical expert agreed with the conclusions in the DOS report. It used the same soil preparation approach contained in the report, which involved compressing the foundation soils using an extensive flooding and de-watering system. This approach was costly and time-consuming.

In considering KI's claim, the court disagreed with KI's contract interpretation and held that its fixed price included all of the geotechnical work. The fact that it had little time to conduct a pre-award site investigation was its own problem. If KI had been concerned that it was "being pressed into making a premature decision, it had the option of simply not agreeing to the government's terms, unpalatable as that might have appeared at the time."[246] It also concluded that no DSC existed, as there was no indication of anything being materially different from what was shown in the contract documents. In drawing this conclusion, the board was critical of KI's foundation design:

[243] *Id.* at 56.

[244] 116 Fed. Cl. 338 (2014).

[245] Part of the reason for this confusion was that DOS was, as the court noted, "eager, indeed desperate, to close the deal on a fixed price contract [as of the close of the fiscal year.] And they may have welcomed KI's naiveté in agreeing to take on the risk that it could perform at a profit." *Id.* at 376.

[246] *Id.* at 377.

> It is ironic, and indeed tragic, that the [RFP geotechnical] report prompted [KI] to invest millions in what probably was over-engineering with respect to the foundation work. But KI's own experts came to the same conclusion and the result was investment in an elaborate watering/compaction/de-watering scheme, which appears to have been unnecessary.[247]

Note that the opinion contains no succinct explanation for why the court drew this conclusion about over-engineering. There is only the inference that the court believed KI did not conduct a more refined engineering effort because it thought DOS would be paying for the ultimate cost.

One of the most common geotechnical dilemmas on design–build projects is the extent of geotechnical information obtained by the agency prior to starting procurement. As noted in Section III, AASHTO's *Guide to Design-Build Procurement* suggests that "agencies conduct initial investigations necessary to prepare an appropriate scope, schedule and price estimate for the work."[248]

Unfortunately, some transportation agencies are more interested in expediting procurement (for political or funding reasons) than undertaking a reasonably adequate site investigation. These agencies virtually require the design–build proposers to accept the site "as is" and assume the associated risks. The "as is" approach is challenging, given the longstanding legal precedent found in the *Spearin* doctrine and the DSC clause that favors contractors.

Drennon Construction & Consulting, Inc. v. Department of the Interior[249] considered these issues on a federal road project in central Alaska. The Department of the Interior (DOI) wanted to widen a campground road from one lane to two and to eliminate a blind curve. It obtained funding under the American Recovery and Reinvestment Act of 2009 as a "shovel-ready" project and engaged an engineering firm, USKH, to prepare 100 percent design drawings and a geotechnical report. DOI provided USKH with a digital terrain model based on earlier photogrammetric mapping. When USKH realized the model contained inaccurate control points, it requested $25,000 to perform a more reliable and accurate survey. Concerned about the limited project funding, DOI denied the request. Instead, DOI decided to deal with this issue by warning potential bidders of possible inaccuracies in the model, requiring the contractor to perform a survey before commencing work, and using disclaimer language to shift the risk to the contractor.

DOI ultimately entered into a design–build contract with Drennon Construction and Consulting, Inc. (Drennon) to excavate the hillside and design–build a gabion wall along the two-lane road. Drennon conducted a survey demonstrating that the road could not be built as shown on USKH's drawings. As a result, the road needed to be shifted in the opposite direction, into the hillside, requiring additional excavation and construction of a much higher wall to restrain the contents of the hill from falling onto the road.

Drennon also encountered soil problems during excavation, as the hillside slopes collapsed due to the soils being "at or near [its] angle of repose." In essence, every "scoopful" excavated from the slopes caused a mini-landslide from above. Drennon concluded that the hill could not be stabilized and stopped work. Ultimately, the project was scaled back to eliminate the widening of the road and included only the construction of the gabion wall.

Drennon filed a claim with the Civilian Board of Contract Appeals, seeking its costs incurred during the suspension and for the additional gabions not used because of the project redesign. Drennon claimed that the project's design was defective and that the geotechnical information provided by the government in the solicitation, on which Drennon relied in pricing the job, significantly differed from the site conditions actually encountered. The board agreed, finding that the bidding documents contained both design defects and representations about the site that materially differed from actual site conditions.

Citing to the *Spearin* doctrine, the board found that DOI bore responsibility for the defective design. The decision noted that both DOI and USKH knew the design was flawed prior to bid. It called for the road to be widened over the guard rail separating the road from a river, but that was impermissible given the National Wild and Scenic River designation of the river. The correction involved moving the road into the hill on the opposite side from the river, an act the board concluded a reasonable bidder could not have anticipated, particularly given that the area was covered with snow during the bidding period. It also rejected the notion that "weasel words" (USKH's phrase used to describe the disclaimer) in the solicitation would shift this responsibility.

The board further noted that the solicitation called for the gabion wall to be "approximately nine feet high at most," and that about 420 cubic yd of gabions would be needed to build it. Because the road was moved into the hill, Drennon had to excavate much more of the hillside than anticipated. In fact, the wall needed to be 15-ft high and consumed

[247] *Id.* at 376.

[248] AASHTO, GUIDE FOR DESIGN-BUILD PROCUREMENT 33 (2008).

[249] CBCA 2391, 2013-1 B.C.A. ¶ 35213, 2013 CIVBCA LEXIS 22 (Jan. 24, 2013).

778 cubic yd of gabions. Although DOI acknowledged that these differences required Drennon to change its construction means and methods, it argued that the use of the word "approximate" and the design–build nature of the relationship shifted these risks to Drennon. The board disagreed, stating:

> The disclaimer that the design might have to be adjusted per a contractor-financed survey alerted bidders to the possibility that the design might have required a bit of tweaking, but cannot reasonably be read to impose on the contractor an obligation to construct the project in a manner significantly different from that envisioned in the contract. With regard to the anticipated height of the wall, "[t]he use of the word 'approximately'…obviously does not mean that the relevant quantity is absolute …[but it] implies a reasonable accurate representation. …Nine feet is not a reasonably accurate representation of what turned out to be fifteen feet.[250]

The board also concluded that Drennon encountered a DSC. The soil borings allegedly contained between 5.1 percent and 10.7 percent fines, described as "slightly silty," and advised that the hillside would be "composed of similar soils."[251] The actual soils on the hillside, however, contained virtually no fines, and the slopes were in a state of incipient failure. As a result, the board found that it was impossible to keep the wall of the excavation open for any period of time, contrary to the conclusions in the geotechnical report.

D. Disputes Arising Out of the Design Process

Section III provided some examples of contract provisions that define the design–builder's design responsibilities and the standards by which the design–builder is to perform its design services. Courts have considered a variety of disputes in this area, including: 1) what happens when there are conflicting views over the contract's design requirements; 2) how much discretion the design–builder has to deviate from contractual standards; 3) whether the design–builder is obligated to meet the prescriptive elements of a performance specification; 4) whether the owner's actions during the design review and approval process can create liability; and 5) what happens if the design–builder does not follow its own specifications. This section will address each of these areas.

1. Conflicts over Contract's Design Requirements and Scope of Work

A typical government design–build contract requires the design–builder to comply with a laundry list of specifications, codes, and standards. Unfortunately, the agency typically does not give much thought to these requirements, which causes conflicts between and among them. Sometimes, these conflicts can be resolved by an order of precedence clause; other times, a provision requires the design–builder to meet the "most stringent governs" standard. Predictably, disputes arise when the design–builder bids a project expecting to meet a different standard from what the agency anticipates.[252]

Such a conflict is seen in *Appeal of Speegle Construction, Inc.,*[253] wherein the Armed Services Board of Contract Appeals considered a dispute over a fire protection system in a design–build dormitory at Eglin Air Force Base in Florida. The Design Requirements section of the specifications specifically addressed conflicting requirements by stating that "Various codes or code requirements are cited throughout this RFP…When codes are in conflict, the most stringent shall apply."[254] The original specifications required that the dormitory room facilities and the attic have a wet pipe sprinkler system designed in accordance with a standard from the National Fire Protection Association (NFPA). An amendment explicitly changed this by requiring the attic to have a dry pipe system designed in accordance with a specific military standard. A later amendment stated that "all new standpipes shall also extend into the attic" and referenced NFPA standards.

Given these amendments, the design–builder's fire protection subcontractor interpreted the contract as requiring a single (i.e., wet) sprinkler system for both the facilities and attic. It supported its position by claiming that this was consistent with industry standards, as sprinkler systems were not

[250] *Id.* at 25.

[251] *Id.* at 7.

[252] There are several design–bid–build cases that discuss this topic in the context of a design professional's duty to the owner. An interesting example is Gee & Jenson Engineers, Architects, and Planners v. United States, No. 05-457C, 2008 U.S. Claims LEXIS 504 (Fed. Cl. 2008), which involved water infiltration on a Navy facility. The Navy concluded that a contributing cause for the leaks was the absence of flashings under a concrete sill at the building's storefront, and that flashings were required by the various Navy guide specifications that were incorporated into the architect's contract by reference. The architect argued, among other things, that it met the standard of care because the building code did not require the use of flashing, but made its use discretionary with the designer. The U.S. Court of Federal Claims disagreed with the architect, finding that building "sets forth only the minimum requirements acceptable within the industry and a contractor is required to comply with the contract, and guide specifications incorporated in the contract. In that regard, the government is allowed to enter contracts that mandate more stringent requirements than that generally accepted in the industry." *Id.* at 53.

[253] ASBCA No. 54236, 2005-1 B.C.A. ¶ 32866, 2005 ASBCA LEXIS 12 (Jan. 26, 2005).

[254] *Id.* at 1.

designed to require a higher level of protection (i.e., dry sprinklers) in an area above a primary space (i.e., attic). The government rejected this interpretation, in part on the basis that the contract required the design–builder to meet the more stringent provision (i.e., the dry sprinkler system in the attic) if there was a conflict in the specifications.

The board ruled against the design–builder on several grounds. Primarily, it found that the reference to standpipes and the NFPA standards in the later amendment did not explicitly change the prior amendment's requirement for a dry sprinkler system in the attic. To the extent there was an ambiguity in the contract's requirements, the board concluded that it was obvious and that the design–builder should have inquired about it during the procurement process. Finally, the board found no merit in the design–builder's argument that its interpretation was consistent with industry standards. "The government has the right to insist on adherence to the contract specifications."[255]

A case in which the design–builder was able to prevail on its interpretation of a design requirement is *Appeal of Jaynes Corporation*.[256] It involved a dispute over paint finishes on a pre-engineered building for the Air Force. The design–builder modified the government's guide specifications to use a Level 4 finish for certain wall areas, specifically deleting the specification's reference to a Level 5 finish. The design–builder did this to conform to another provision of the specifications, which specified a finish that was consistent with a Level 4 finish.

The government required the design–builder to use a Level 5 finish, arguing that the guide specification was to be the "minimum basis for quality." The board rejected this position and found for the design–builder. It concluded that: 1) the order of precedence clause supported the design–builder's interpretation; 2) the contract specifically contemplated that the design–builder was to edit the guide specification to conform to the varying design requirements in the contract; and 3) the government's reading of the contract would lead to certain provisions being inoperable.

Many other cases involve similar arguments over the scope of the design–builder's design responsibilities. As suggested by the *Jaynes* decision, an agency's reliance on broad provisions (e.g., "comply with the most stringent requirement") will not overcome specific language to the contrary, particularly from an order of precedence clause.

[255] *Id.* at 10.

[256] ASBCA No. 58288, 2013 B.C.A. ¶ 35,240, 2013 ASBCA LEXIS 10 (Feb. 15, 2013).

2. Extent of Design–Builder's Discretion in Choosing Design Standards

Several cases have considered disputes between the owner and design–builder over what, if any, discretion the design–builder has to make changes to design standards. Consider *Appeal of United Excel Corporation,*[257] which involved the construction of a federal government healthcare facility for the VA. The RFP contained detailed specifications, including requirements for components of the HVAC system. During the 90 percent design review, a dispute arose between the design–builder and the VA over whether the registers, grilles, and diffusers in the operating rooms were required to be aluminum or stainless steel.

The numerous specification sections that addressed these requirements were in conflict. Some required that the components be stainless steel, others that they be extruded aluminum, and still others gave a choice of stainless steel or aluminum. The design–builder's mechanical subcontractor identified these conflicting provisions prior to submitting its bid and priced aluminum diffusers to provide "best value." When the design was developed, however, VA insisted that stainless steel be used in the operating rooms.

VA conceded that the specifications for the operating room HVAC materials were ambiguous, but contended that the conflicts were so "obvious" and "glaring" that they should have been considered "patent ambiguities," and that the design–builder was obligated, pre-award, to inquire about which materials were required. The design–builder argued that the ambiguity was not patent, since the specifications reasonably led one to believe that aluminum was an acceptable material. The design–builder also argued that, because this was a design–build contract and the RFP drawings and specifications only established "design parameters," it was entitled to choose aluminum diffusers as the most economical way to achieve the design intent.

The VA Board of Contract Appeals concluded that the design–builder had the obligation to meet the design requirements of the specifications, notwithstanding that this was a design–build project:

> The Contract is clear that, in executing the final Construction documents, [the design–builder] was constrained to follow the requirements of the RFP specifications and drawings and this constraint required [the design–builder] to design a diffuser configuration, using stainless steel diffusers, which would meet the sterile air curtain requirements.[258]

[257] VABCA No. 6937, 2004-1 B.C.A. ¶ 32,485, 2003 VABCA LEXIS 13 (Dec. 11, 2003).

[258] *Id.* at 16.

The board found it unnecessary to decide whether the conflicts in the specifications were patent or hidden. In holding against the design–builder, the board concluded that, because the mechanical subcontractor had actual knowledge of the ambiguity, its failure to raise this ambiguity prior to bid was fatal to the claim. It specifically rejected the notion that, because the contract was "design–build," these duties to inquire before bid were no longer relevant:

> We also see nothing in the case law, and [the design–builder] has provided none, for the proposition that the well-settled law relating to the contract interpretation is suspended or abrogated in a design–build contract. To the contrary, the case law indicates that a design–build contract shifts risk to a contractor that a final design will be more costly than the bid price to build and that the traditional rules of fixed-price contract interpretation still obtain. [The design–builder] was not relieved of its obligation to inquire about the aluminum stainless steel diffuser discrepancy because the Contract was design–build.[259]

A similar result was reached in *Appeal of ECC, International*,[260] which involved disputes over design and other standards for a prefabricated warehouse in Iraq. The contract's standard of care provision stated:

> The standard of care for all design services performed under this agreement shall be the care and skill ordinarily used by members of the architectural or engineering professions practicing under similar conditions at the same time and locality. Notwithstanding the above, in the event that the contract specifies that portions of the Work be performed in accordance with a specific performance standard, the design services shall be performed so as to achieve such standards.[261]

As with the contractor in *United Excel,* the design–builder argued that the clause contractually required the government to afford it "some type of flexibility," particularly as it related to war-time conditions and local building techniques.

The board rejected this position, citing the fact that the contract contained specific standards that the design–builder was to achieve, including designing the project to meet the International Building, Electrical, Mechanical, and Fire Codes. It also required the design–builder to meet the U.S. Corps of Engineers Guide Specifications. The board stated, "Thus, [the design–builder] did not merely commit itself to perform under some adjustable standard that varied depending upon local conditions or building techniques."[262] Because the design–builder could not show that the government had required it to do something beyond what was specified in these standards, its claim failed.

Appeal of Lovering-Johnson, Inc.,[263] which was previously discussed in Section A, had a similar result. The design–builder argued that because this was a design–build project, it should have been permitted to change the design submitted in its technical proposal if it met the performance standards. The board rejected this, finding that "[as] a general proposition, the structures, details and finishes that appellant offered to provide in its proposal became part of the contract. It could not offer features and later provide lesser quality alternatives without identifying the variations and generally offering them at a reduced cost to the Navy."[264]

3. The Duty of Design–Builder to Meet the Prescriptive Elements of a Performance Specification[265]

Consistent with the arguments raised in the *United Excel, ECC,* and *Lovering-Johnson* decisions discussed above, some design–builders have argued that, because of the nature of design–build, they are free to ignore prescriptive elements of a specification, as long as they are ultimately successful in achieving the performance specification. These arguments have not been successful.

One of the early design–build cases addressing this was *Dillingham Construction, N.A. v. United States.*[266]

> Dillingham, the design–builder, sued the [Veterans Administration] on behalf of its electrical subcontractor for costs arising from the VA's enforcement of more stringent electrical specifications than the electrical subcontractor contended were required by the contract. The electrical specifications in the solicitation required the use of raceways to run conduit through the facility. They also described the conduit size and characteristics, and supports for the raceways. The subcontractor proposed to use metal clad cable ("MC cable") in lieu of the raceways.[267] The VA rejected this proposal. It also rejected the conduit supports installed by the subcontractor, claiming they were non-conforming to the specifications. The total cost of complying with these VA requirements, which was over $600,000, was the subject of the claim.
>
> The subcontractor argued that the electrical specifications were performance specifications and, as a result, were merely "general guidelines" that gave the subcontractor "wide latitude" in interpreting them. Its primary argument was based upon the cover page of the solicitation, which

[259] *Id.* at 17.

[260] ASBCA No. 55781, 2013 B.C.A. ¶ 35,207, 2012 WL ASBCA LEXIS 106 (Dec. 28, 2012).

[261] *Id.* at 4. (This clause is identical to the DBIA's standard of care clause, as previously set forth in § III.)

[262] *Id.* at 64.

[263] ASBCA No. 53902, 2006-1 B.C.A. ¶ 33,126, 2005 ASBCA LEXIS 98 (Nov. 17, 2003).

[264] *Id.* at 72.

[265] Much of this section is extracted from Michael C. Loulakis, Legal Aspects of Performance-Based Specifications for Highway and Maintenance Contracts 50 (Nat'l Cooperative Highway Research Program, Legal Research Digest No. 61, Transportation Research Board, 2013).

[266] 33 Fed. Cl. 495 (1995).

[267] MC cable is a factory assembly of conductors, each individually insulated and enclosed in a metallic sheath of interlocking tape or tubes.

stated that: "Contractor shall provide complete construction drawings and specifications for the [Project] based on the preliminary drawings and performance specifications included with this solicitation."[268]

The court rejected this argument out-of-hand, stating that the cover page did not say that the contractor was excused from complying with design specifications in the contract. In fact, the court noted that the contract specifically required that the design comply with the design–build criteria and the electrical specifications contained in the contract. Citing to the general rule and the Blake decision discussed above, the court stated that "design specifications" and "performance specifications" are just labels that "do not independently create, limit or remove a contractor's obligations."[269]

The electrical specifications specifically required the use of raceways and gave the design–builder no flexibility to instead use MC cable. With respect to the support clips, the court concluded that the types of allowable supports were also specifically identified in the specifications, and consisted of ceiling trapezes, strap hangers, and wall brackets. The fact that the support clips offered by the electrical subcontractor performed the same function as those identified in the specifications was irrelevant, as the specifications did not state that "an equivalent" could be used.

A similar result was reached in *Appeal of FSEC, Inc.,*[270] which involved a dispute over the installation of a ventilation system during construction of a new naval abrasive blast and spray facility. The plans and specifications specified, among other things, two exhaust fans and two dust collectors for each room and a cross-draft ventilation rate of air flow. The design–builder assumed that it had the flexibility to design a ventilation system that would meet the performance specifications; therefore, it concluded that each room needed only one exhaust fan and dust collector to meet the air handling requirements. When the Navy rejected the design–builder's proposed design and required it to supply all four exhaust fans and dust collectors, the design–builder filed a claim for the additional costs.

The board rejected the notion that the design–builder could change the specified design as long as it met the performance requirements. It noted that the contract very clearly contained both design and performance specifications, and that the design–builder had to comply with both. The board was also persuaded by testimony from the Navy that it wanted the ventilation system design to be prescriptive to "insure that the end result would meet applicable air pollution standards…and not leave it to chance for the design–build contractors to design it."[271]

4. Owner's Actions in Reviewing and Approving Design Submittals

The owner's involvement in the review and approval of design submittals on a design–build project creates a much different liability exposure than under other delivery systems. As noted in Section III, there can be questions as to whether the owner is taking on design liability if the proposed design contains errors in spite of contract language to the contrary. In addition, questions can arise as to whether the owner's actions during the submittal process make it liable for delaying the project.

Most design–build contracts specify the level of design submittals expected from the design–builder and the response (i.e., turnaround) time required by the owner. Although this type of clause can be used with a designer under a design–bid–build process, it has little practical ramification, as construction is not directly impacted by whether the owner takes more time to respond to the design submittals than the contract allowed. This is not the case in a design–build contract, as the design–builder has committed to complete the project in a specific period of time, and its price is based upon moving efficiently from the design to construction process.

Several federal cases discuss design–builders' claims that they were delayed by the government's actions during the design review and approval process. Among the complaints raised by design–builders are that the agency: 1) took too long to complete its design reviews, 2) added to the scope of work, and 3) improperly "nitpicked" the submittal—resulting in the design–builder either being delayed in starting the next phase of design or in starting construction.

Courts in considering these claims generally base their analysis on the same questions associated with proving excusable delays on any project, including whether: 1) the government breached its contractual obligations (e.g., excessive response times or added scope of work); 2) the design–builder contributed to the government's breach; 3) the design–builder notified the government that it was being negatively impacted by the breach; and 4) the government's breach actually affected the project's completion date. The results to date have generally not been favorable to the design–builder.

Consider, for example, K-Con Building Systems, Inc. v. United States.[272] It involved a $580,000 design–build contract for the construction of a prefabricated building for the Coast Guard in Port Huron, Michigan. Because K-Con (the design–builder) was late in completing construction, the Coast Guard withheld approximately $110,000 in liquidated damages. K-Con filed suit to recover the liquidated damages and its own affirmative delay-related claims, basing much of its case on the Coast Guard's actions during the design review process.

Shortly after contract award, the Coast Guard inquired about the feasibility of making some changes in the proposed design. The parties engaged in some back-and-forth about the scope and impact of the

[268] *Dillingham,* 33 Fed. Cl. at 497.

[269] *Id.* at 516.

[270] ASBCA No. 49509, 1999-2 B.C.A. ¶ 30,512, 1999 ASBCA LEXIS 112 (July 28, 1999).

[271] *Id.* at 9.

[272] 100 Fed. Cl. 8 (2011).

potential changes, particularly the effect that they would have on the overall building design. During this process, the Coast Guard changed its mind, first stating that it was inclined to enlarge the building and add certain work and then later advising that it would not make any changes. K-Con argued it could not start the design until these issues were resolved.

Another set of issues involved the design review comments and whether they added scope. K-Con alleged that it made the changes "required" by the Coast Guard during the review process, as it would have been futile to convince the government that the comments were ill-founded. The trial court examined 10 discrete comments and concluded that all of them required an evidentiary hearing to determine if they constituted additional work. Consider the following review comments:

- "Overall building dimensions shall include provisions for minimum 1" air space between the inside face of the veneer brick and sheathing."
- "Please provide small vision panels in the exterior doors."
- "Need to provide return from the multi-purpose room."
- "Please provide a hose bib connection."
- "Recommend isolation pads between furnaces and the framing."
- "Recommend utilizing storm excluding louvers in case of snow or rain penetration."[273]

The Coast Guard argued that the first four items on this list were not directives for additional work but "reminders" to K-Con that it needed to comply with all relevant building standards. It argued that the two "recommendations" were just that: they were intended to ensure compliance with standard building practices. K-Con argued that all of these items were not required by applicable building standards. It further argued that it was delayed because it accommodated the Coast Guard's comments by making the changes in its 35 percent and 50 percent design documents.

The trial court never ultimately ruled on whether these comments were changes. It granted the Coast Guard's summary judgment motion that K-Con failed to provide written notice that it objected to the Coast Guard's design comments. This decision was affirmed by the U.S. Court of Appeals for the Federal Circuit.[274] Both courts relied upon the fact that, throughout the period that the Coast Guard was allegedly making changes, K-Con never objected to the Coast Guard's actions or suggested that it was entitled to an adjustment of contract terms. "Instead, K-Con repeatedly expressed its intent to incorporate the Coast Guard's requests as though they were consistent with the terms of the contract…responding to Coast Guard's review comments with brief, affirmative statements, such as '[w]ill comply,' '[c]orrection will be made,' and '[d]etail will be revised.'"[275]

Although the appellate court's decision noted that a contractor could try to explain why the notice requirements should not be enforced, K-Con's argument that compliance would have been "futile" was not an adequate basis. Finding no evidence that compliance would have been futile, the court cited to the "Design Coordination Review Comments" form, which left a space for the contractor to respond with an action code, including that it did not concur with the Coast Guard's comments. The court further stated:

> [It] is unknown what would have happened had K-Con broached the issue of changes around the time the Coast Guard made the work requests at issue. …[T]imely objections would have presented a very different choice between at least four options–refraining from making requests regarding K-Con's work, altering the nature of the requests, keeping the requests the same but making equitable adjustments to the contract, or rejecting the allegations of changes altogether and thereby risking litigation or a halt to the project. K-Con failed to comply with the changes clause, and its after-the-fact speculations about what would have happened had it complied do not create a genuine dispute of material fact regarding whether it should be excused for its failure.[276]

K-Con was consequently unable to obtain remission of the liquidated damages as a result of its failure to follow the contract's claim notification process.[277]

As suggested by the *K-Con* decision, one of the common challenges in the design review process relates to the reasonableness of the agency's rejection of a submittal—particularly when it affects the start of construction.[278] Guidance on this topic, however, comes from *Appeal of Imperial Construction*

[273] *Id.* at 16, 31–33.

[274] K-Con Bldg. Sys., Inc. v. United States, 778 F.3d 1000 (2015).

[275] *Id.* at 1009.

[276] *Id.* at 1011.

[277] A major issue in the litigation was whether the liquidated damages amount was a penalty, and therefore unenforceable. Both the trial and appellate courts concluded that the liquidated damages were reasonable and enforceable.

[278] K-Con initiated lawsuits against the Coast Guard on two other design–build projects for prefabricated buildings. The Elizabeth City, North Carolina, project (K-Con Bldg. Sys., Inc. v. United States, 114 Fed. Cl. 722 (2014)) involves delays to the project that resulted in the assessment of liquidated damages and the Coast Guard's default termination of K-Con. The St. Petersburg, Florida, project (K-Con Bldg. Sys., Inc. v. United States, 115 Fed. Cl. 558 (2014)) also involved the Coast Guard's assessment of liquidated damages and the question of whether K-Con's delays were caused by the Coast Guard. In each case, there are allegations that the Coast Guard delayed K-Con by precluding it from starting construction work until the design was 100 percent approved. The decisions reported to date have not addressed the merits of this argument.

and Electric, Inc.,[279] which involved the design and construction of a New Jersey water park for a government agency. The design–builder claimed that it was delayed and then accelerated by the government and incurred delay-related and productivity-related expenses. One of the design–builder's primary complaints was that the government caused delays during the design phase of the project that later caused construction delays, and that the government would not allow time extensions for those delays. The board of contract appeals considered and ultimately rejected each of the design–builder's bases for design-related delays.

The first delay cited related to the design kick-off meeting, which the contract provided would be conducted as soon as practicable after award. The board found that it should have taken place 14 days after the design notice to proceed. For reasons attributable to the government, it took place after 29 days. The design–builder, however, provided no written contemporaneous indication that this delay of the kick-off meeting was affecting its design work. It provided no evidence that, but for this delay, its 50 percent design submittal could have been made earlier. As a result, the design–builder failed to show that this specific delay caused an overall project delay.

The design–builder fared no better with its allegations that the government's responses to the 50 percent design delayed its performance. Approval of this design was a condition precedent to the government's issuance of a limited notice to proceed to start clearing and grubbing activities. The design–builder appeared to argue that comments were being received piecemeal, and that it could not finalize the 50 percent design until all design comments were received. It also argued that the drawings were technically sufficient to allow clearing and grubbing, and that the government's comments should not have held up authorization.

The board agreed that the drawings were technically sufficient for clearing and grubbing, but concluded that it was reasonable for the government to withhold issuance of the limited notice to proceed. Among the government's cited reasons for its rejection of the 50 percent drawings were: 1) the site drawing was not signed by the architect of record; 2) the drawings lacked evidence of an internal design quality assurance review; and 3) according to a general observation by the government's project manager, the submittal included insufficient construction specifications for site work.

The board recognized that "the observations as to the sufficiency of the specifications and the completeness of the civil drawings are, to an extent, subjective and, in some instances, based on requirements that are not in the contract (e.g., demolition plan)."[280] The board concluded, however, that the design–builder had not proven the cause-and-effect of the alleged delays:

> It is clear that both parties may have had some part in the extended 50% design performance period. [Design–builder] has provided no proof showing that its incomplete 50% design submittal had no role in that extended performance period. We have not been shown any causal connection between this apparent delay and the date for overall completion of construction.[281]

The board specifically noted that the design–builder failed to conduct an as-built scheduling analysis to demonstrate the impact that design had on its construction activities.

Note that the project manager in *Imperial* had no prior experience with design–build. The court's decision suggests that, although the manager was technically correct in finding flaws in the design submittals, she appeared to be asking for more information than required and based her rejections on technicalities. If the design–builder had been better able to demonstrate the impact of those decisions on its critical path, the decision might have been different. A similar problem occurred for the design–builder in *Appeal of The Davis Group, Inc.*,[282] where it was unable to show that the design modifications required by the U.S. Army Corps of Engineers were the ultimate cause of the construction delays.[283]

An example where the design–builder prevailed on its position that the government delayed the project is Appeal of ADT Construction Group, Inc.[284] Two central issues fueled the dispute on this Air Force munitions maintenance facility: 1) whether the design–builder was able to fast-track the design process and start construction before design was completed, and 2) whether the government delayed the design–builder in the review of its design submissions.

The fast-track issue arose from conflicting language in the RFP. Although the RFP initially allowed fast-tracking, the government changed its mind and attempted to modify the RFP to require the design–builder to submit a 100 percent design of the entire project before it would review the plans.

[279] ASBCA No. 54175, 2006-1 B.C.A. ¶ 33,276, 2006 ASBCA LEXIS 38 (May 3, 2006).

[280] *Id.* at 30.

[281] *Id.* at 33–34.

[282] ASBCA No. 57523, 2011-2 B.C.A. ¶ 34,824, 2011 ASBCA LEXIS 59 (Aug. 12, 2011).

[283] The design issues involved the direction by the Corps for the design–builder to modify its stormwater design to incorporate certain requirements of a state stormwater management manual.

[284] ASBCA No. 55307, 2009-2 B.C.A. ¶ 34200, 2009 ASBCA LEXIS 38 (July 9, 2009).

The board found that the government "failed miserably at that task" and several references to fast track remained in the RFP. The design–builder's proposal stated that it would use the fast-track method for design and construction. As a consequence, the contract contained both the proposal and the clause requiring approval of 100 percent of the design. In finding for the design–builder, the board was persuaded by the fact that: 1) the government did not question the design–builder's intentions to use fast track as stated in its proposal; 2) during the design period, the design–builder repeatedly reminded the government that it was fast-tracking the project; and 3) the government never said fast track was not appropriate or not allowed. As to this list point, the board stated, "[The] government's utter silence when [design–builder] repeatedly raised the issue of fast track squarely put the burden on the government to respond during the design phase—and it did not."[285]

As for discrete design review and approval delays, the board found the government to be responsible for a number of problems. For example, approval of the site/civil drawings was delayed because of a conflict between a slope requirement and the actual topography, which ultimately resulted in a waiver being given by the government. The board concluded that the government bore responsibility for not acting upon the waiver sooner. The board also found several instances where the government "raised questions late in the game, which had no merit but held up approvals," and made late changes to the design that reversed prior decisions. The board ultimately concluded that the government was responsible for 218 days of project delay, as supported by the design–builder's scheduling analysis.

One of the great fears that design–builders have about the design review process is that agencies will "nit-pick" submittals and impact their ability to progress the work. Although "nit-picking" can be in the eyes of the beholder, it appears to be what happened in *Appeal of Ellis Environmental Group, LC.*[286] In general, the dispute was over unreasonable delays in processing submittals on an exhaust ventilation system for a fire station at a Florida Naval Air Station. The design–builder's ability to start any construction activities, including a preconstruction meeting, was tied to the government's approval of the 100 percent final design submission. This submission included an environmental protection plan, a QC plan, and a health and safety plan, among others.

On numerous occasions, the government rejected the design–builder's submissions on a number of technical grounds. The reasons included: 1) the contractor had not executed the signature block on a transmittal letter; 2) a transmittal page was numbered incorrectly; and 3) signature blocks were photocopied. These rejections, among others, were used to stop the preconstruction meeting from taking place and contributed to almost 6 months of project delays.

The design–builder's claim for additional costs of delay and remission of liquidated damages was rejected by the Armed Services Board of Contract Appeals. The board concluded that each rejection was justified based on a strict reading of the contract. It also concluded that the government's representative had it within his discretion to demand the corrections before allowing construction activities to start.

The issue of the government's untimely processing of design submittals was also raised in the *Appeal of Lovering-Johnson, Inc. (LJI),*[287] as previously discussed. The design–builder asserted that the Navy took too long to review its design documents, arguing that, in a design–build setting, the government's review of the 40 percent and 80 percent design should have been a cursory, "over-the-shoulder" analysis of its design. Instead, the design–builder claimed, the Navy approached the design review period as if the contract was based on a design–bid–build delivery system.

In denying the design–builder's claims, the board issued a rather scathing rebuke of the design–builder. It found the design–builder's design documentation over the course of the project to be "incomplete, submitted piecemeal, error-filled, replete with variations from contractual requirements and otherwise inadequate."[288] The decision noted that:

- Because of the extensive deficiencies in the design documentation, an "over-the-shoulder" review could only have been a first step in resolving them.
- The design problems necessitated frequent resubmissions and extensive discussions. The design–builder offered no proof that the government actions were either in error or dilatory.[289]

The board ultimately concluded that the design–builder offered no evidence to show the Navy's comments, disapprovals, or itemization of problems during the design review process were unwarranted, lacked merit, or otherwise caused LJI to perform extra work.

Design–builders often voice the concern that owners abuse the submittal process to obtain, for free, a design preference that would otherwise be

[285] *Id.* at 84.

[286] ASBCA No. 55375, 2008-2 B.C.A.¶ 33,918, 2008 ASBCA LEXIS 48 (July 22, 2008).

[287] ASBCA No. 53902, 2005-2 B.C.A. ¶ 33126, 2005 ASBCA LEXIS 98 (Nov. 17, 2005).

[288] *Id.* at 70.

[289] *Id.* at 71.

considered a compensable change. As a consequence, to avoid delays, the design–builder will give in to the owner's preferences and then seek recovery of the differences in cost. Several cases suggest that the owner did precisely that, but the design–builder was unable to prove that it was not acting as a volunteer in giving the owner what it really wanted.

In *Appeal of Win Ballance, Inc.*,[290] the design–builder alleged that the U.S. Army Corps of Engineers required it to provide a more costly roof system than required by the contract. The design–builder claimed that this situation was created because the Corps stated at an early partnering meeting that it wanted the roof system to match that used on an adjacent building. The design–builder initially chose a different roof system manufacturer than the one used on the other building, but was unable to convince the Corps that the colors on both would match. After having its submittals repeatedly rejected, the design–builder eventually agreed to use the same manufacturer as on the adjacent building. The Corps argued that its rejection of the submittals was because the design–builder had failed to comply with contract requirements.

The Armed Services Board of Contract Appeals denied the claim. It found that the Corps was contractually justified in rejecting the submittals, and that the design–builder made a unilateral decision to change manufacturers rather than try to obtain an acceptable submittal with its original manufacturer. Interestingly, its decision noted that "we are not prepared to suggest that the user would not have preferred that both contractors use the same roof system."[291]

Because allegations of owner-caused delays during the design process have been a common theme in design–build disputes, other cases in this section will address their disposition as appropriate. As previously demonstrated, courts and boards of contract appeals have generally been less than sympathetic to design–builders' complaints. Many of the results appear to be based on the design–builder's inability to prove that the alleged owner interference actually caused delays to the project. If the design–builder's project controls and management approach demonstrated the cause-and-effect of the alleged owner action on its operations, a different result might be seen. The *Ellis Environmental* decision is more challenging for design–builders, as the board did not seem troubled by the agency's "form over substance" viewpoint of the submittal process.

One other point about the owner's submittal review process must be noted. It is clear that contract language and case law have been protective of the owner's right to obtain what is required by contract regardless of its review and approval of submittals.[292] However, a design–builder can use the owner's approvals, or failure to reject or comment, to support a claim that the owner knew the design–builder's contractual interpretation and, therefore, should be bound by it.

Reliable Contracting Group, LLC v. U.S. Department of Veterans Affairs[293] illustrates this point. The project involved a design–build contract for a new utility plant and electrical distribution system for the VA. A dispute arose over whether the design–builder's electrical subcontractor was obligated to provide two or three emergency generators capable of running simultaneously. The subcontractor submitted an initial short circuit study analysis that was based on two generators running simultaneously, with the third generator serving as a back-up. VA approved this approach, with some notes. The subcontractor then procured and installed equipment that was consistent with the study.

As the plant neared completion, VA asked about the sequence of operation of the three generators. At that point, VA advised the design–builder that it expected all three generators to simultaneously provide power. This resulted in another short circuit study, which showed that several large pieces of equipment were not adequately protected if the three generators were running simultaneously. VA directed the design–builder to change the equipment, prompting a claim of approximately $1.7 million.

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[290] ASBCA No. 53710, 2005-2 B.C.A. ¶ 33,081, 2005 ASBCA LEXIS 83 (Sept. 28, 2005).

[291] *Id.* at 7.

[292] Gee & Jenson Engineers, Architects, and Planners v. United States, No. 05-457C, 2008 U.S. Claims LEXIS 504 (Fed. Cl. 2008), cited in note 227, is a design–bid–build case that discusses this as well. In that case, the architect claimed that it was absolved from liability because the Navy approved the design with no flashing. The U.S. Court of Federal Claims rejected this argument, citing FAR 52.236-23(b), which stated:

> (b) Neither the Government's review, approval, or acceptance of, nor payment for, the services required under this contract shall be construed to operate as a waiver of any rights under this contract or any other cause of action arising out of the performance of this contract, and the Contractor shall be and remain liable to the Government in accordance with applicable law for all damages to the Government caused by the Contractor's negligent performance of any of the services furnished under this contract.

The court also relied on contract provisions that required the architect to actually request permission from the Navy to cancel the flashing requirement and obtain specific approval from the Navy to do so.

[293] CBCA 1539, 2011-2 B.C.A. ¶ 34,882, 2011 CIVBCA LEXIS 295 (Nov. 16, 2011).

VA argued that the design–builder bore the cost consequences of installing and removing underrated electrical equipment prior to its submission of the final short circuit study and analysis. It believed that the design–builder, prior to selecting the electrical equipment, should have performed a final short circuit study analysis to determine the proper type and size of equipment for the contract. Had this been done, the fact that only two generators would be running simultaneously would have been discovered. This would have obviated the costs incurred for purchasing, installing, and removing the underrated equipment.

The Civilian Board of Contract Appeals flatly rejected this position. First, it found no evidence that VA warned the design–builder that it was installing large amounts of unapproved equipment. The record made it clear that the design–builder was proceeding with the work based on the approval of the initial short circuit submittal. Next, it found no compelling evidence that the design–builder should have discovered that VA wanted the three generators to be capable of running simultaneously. In addition, VA presented no evidence to rebut the design–builder's testimony that it is common practice for hospitals to have a spare generator for their backup electrical system.

In finding that the design–builder should be compensated for all of its costs in dealing with this situation, the board had this comment about VA's actions:

> It is clear from the evidence that the VA failed to adequately review the submittals and is attempting to foist its own failures onto Reliable (i.e., the design–builder). Reliable's interpretation, that only two generators were required to run simultaneously, was reasonable. It is difficult for the Board to find sympathy for the Government when it operates in such a careless fashion and later attempts to obtain relief from such behavior. Based on the evidence before us, we see no reason to penalize the contractor for not earlier realizing the parties' differing interpretations regarding the backup generators, or the resultant need for a change to the contract. Clearly, the VA's sloppy handling of some of the electrical equipment submittals contributed to Reliable's escalated costs for the change.[294]

5. Failure of Design–Builder to Abide by Its Own Design

Design–builders will ultimately create the project's design documents based on the agency's established contractual requirements. What happens if the design–builder puts forth a design that is approved by the agency, and later either fails to follow it or believes that it is too restrictive? Predictably, the design–builder has not fared well in these situations.

Consider *Appeal of Strand Hunt Construction, Inc.,*[295] which involved the installation of windows at a U.S. Army Corps of Engineers complex in Alaska. The RFP's specifications called for windows that met certain thermal and blast-resistance performance requirements. The design–builder had trouble procuring and installing contract-compliant windows. It sought extra costs for the delays, claiming that the specification was defective because the windows that met the specified criteria were not available off-the-shelf from manufacturers at the time of contract award.

It is important to note that the design–builder's architect created design specifications directly from the RFP. These documents were submitted, reviewed, and approved by the government. It was only after these specifications were sent to subcontractors for bidding purposes that it was allegedly discovered that they could not be met by an "off-the-shelf" product.

The board rejected the design–builder's claim, finding that, although the windows had to meet several specific design characteristics, the overall window specification was a performance specification. It gave the contractor discretion over the window locations, size, manufacturer, and installation. The fact that windows meeting these specifications were not available off-the-shelf and had to be custom-made did not shift this risk to the owner:

> SHC apparently assumed, even though the RFP made no such representation, that a ready-made window existed or that a compliant custom made window could be acquired within its budget that met the RFP requirements. It (as well as its designer and its window subcontractor) did little investigation prior to submitting its proposal or even before substantially completing its design during the performance period. …The RFP does not require nor promise the availability of ready-made windows. There is evidence that windows meeting all RFP performance requirements could be manufactured given enough time. The evidence shows only that SHC could not find an off-the-shelf ready-made window meeting the requirement of CRF 67 and which was within its proposed budget. Had SHC, its architect of record and its window subcontractor investigated window availability in the proposal phase they would have discovered that it was unlikely they would find windows meeting all the RFP requirements without having them custom manufactured with attendant cost and long lead times. However, SHC and its subcontractors did not fully investigate window availability until late in the design process. SHC must now bear the burden of its failure to investigate the availability of the required windows. (Citations to findings omitted.)[296]

The design–builder attempted to argue that it had no choice but to make sure its proposal and

[294] *Id.* at 9.

[295] ASBCA No. 55671, 08-2 B.C.A. ¶ 33,868, 2008 ASBCA LEXIS 57 (May 22, 2008).

[296] *Id.* at 33–34.

design specifications mirrored the RFP requirements. The board dismissed this, stating:

> [If] SHC indicated in its proposal and design specification submissions that it would meet the RFP performance requirements without adequate investigation, it did so at its own risk. SHC was obligated to not just say that it would meet requirements, but also to be sure it could actually do so.[297]

Underlying the board's decision was evidence presented during the hearing that the contract-compliant windows could be designed and manufactured given enough time and appropriate planning.

A similar result was reached in a private sector case, *Younglove Construction, LLC v. PSD Development, LLC.*[298] This project involved the construction of an animal feed manufacturing plant in Ohio. The owner withheld a substantial portion of the design–builder's retainage based on allegations of defective work, including: 1) concrete that did not meet the contract's requirement of 4,000 psi at 28 days, and 2) rebar that did not meet the specification's vertical spacing requirements. The design–builder argued that these deficiencies were immaterial and provided engineering proof that the as-placed concrete was structurally adequate for its intended purposes. The court disagreed with the design–builder. For each alleged breach, the court noted that the design–builder created the specifications that it failed to follow.

As for the concrete, the court held that the design–builder's failure to meet the concrete strength test: 1) met the contract's definition of "defective construction," in that the work did not conform to the Contract Documents, as required by the contract; and 2) constituted a breach of the design–builder's contractual guarantee that "all Construction will be complete in accordance with the Contract Documents." The fact that the design–builder might be able to prove that the building was structurally adequate did not negate that there was a breach, but simply would go to the materiality of the breach and the appropriate damages.

The court reached a similar conclusion relative to the placement of the rebar. The design–builder's design specified the location of the rebar, vertical spacing, and amount of concrete cover. Because it decided to "float" the rebar, these precise requirements were not met. The design–builder argued that the Ohio Building Code allowed rebar placement to vary from the engineer's structural drawings if, "after review and analysis, engineering judgment warrants such variance." The court concluded, however, that this could only be done as part of the design process, not after the fact during construction. Because the design–builder failed to follow its own specifications, and its rebar placement was inaccurate, it had breached its obligations to perform all work "in accordance with the Contract."

E. Failure of Design–Builder to Meet Expected Performance

As discussed in Section II, one of the primary challenges for owners using design–bid–build is that they have to prove whether design or construction is the root cause of a problem. Design–build's single-point-of-responsibility feature generally eliminates this challenge, enabling the owner to point to the failure of the system to function and make a claim against the design–builder. The cases in this section highlight the practical application of these principles.

1. Improper Design or Construction

When a design–build project does not function as required, the owner has multiple legal theories it can use to pursue the design–builder for defective design or construction. Breach of express contract is the most common legal theory used by owners who have claims against design–builders.

Consider, for example, *Rivnor Properties v. Herbert O'Donnell, Inc.*,[299] wherein the owner of the project contracted for the design and construction of an office building in the greater New Orleans area. The design–builder subcontracted the design to an architect who had no contractual supervisory obligations incident to construction. Shortly before completion of the project, the owner complained that water was leaking into the building. Over a period of about 3 years, the design–builder attempted to remedy the leaks. Its subcontractor performed patch work on the cap flashing, installed caulking around the building, and drilled holes in the exterior curtain wall system. Despite these efforts, the leaks continued, resulting in, among other things, glass breakage and discoloration.

Eventually, the owner hired its own experts to determine the causes of the various problems. The owner performed the work recommended by its experts and then filed suit against the design–builder for breach of contract and express and implied warranties. Various third-party claims and cross-claims were filed by the design–builder and its subcontractors, including the architect. The trial court found the design–builder fully liable to the owner. The Louisiana Court of Appeals affirmed this decision. The court held that the design–builder "was charged by contract with the sole responsibility for all construction means, methods, techniques,

[297] *Id.* at 32.

[298] Case No. 3:08-cv-1447, 2010 U.S. Dist. LEXIS 117124 (N.D. Ohio 2010).

[299] 633 So. 2d 735 (La. Ct. App. 1994).

sequences and procedures and for coordinating all portions of the work under the contract," as well as QC inspections. The court also found that several members of the design–build team, i.e., the architect and several trade subcontractors, contributed to the leakage problem and were liable to the design–builder for a share of the damages.

Performance problems were also the focus of *Glacier Tennis Club at the Summit, LLC v. Treweek Construction Company, Inc.*,[300] a case discussed in detail in the following Sections E.3 and F.2. This involved litigation that arose out of defects in a Montana tennis facility. As it was investigating other problems with the facility, the owner discovered that the building had elevated levels of radon. It attributed this to the design–builder's failure to install a subsurface vapor barrier and sued the design–builder for the costs of remediating the radon.

The design–builder argued that radon remediation was neither contemplated by the parties at the time of contracting nor required by the standard of care at the time of the project. The owner asserted that the design–builder's failure to install the vapor barrier violated the Uniform Building Code, and that radon remediation was the foreseeable consequence of the design–builder's failure to satisfy this duty. The lower court allowed this issue to go to the jury, which found in favor of the owner. The design–builder's appeal to the Montana Supreme Court was unsuccessful, as that court concluded that there was adequate evidence to support the relationship between the need for radon remediation and the failure of the design–builder to install the vapor barrier.

Although breach of contract is an expedient legal theory for an owner to raise against a design–builder, the damages awarded under this legal theory are more limited than those available for negligence.[301] As a consequence, depending on state law, some owners will sue the design–builder for both breach of contract and negligence. This was the case in *Hayward Baker, Inc. v. Shirttail Gulch Road District,*[302] which involved the failure of a tie-back anchor block system on a South Dakota emergency slope repair project. The road had a history of slope failures over a year-long period, which appeared to be caused by above-average precipitation. The design–builder's anchor block system was one of several failed attempts to stabilize the area.

When the owner failed to pay the last portion of the design–builder's payment requisition, the design–builder sued. This prompted the owner's counterclaim for breach of contract and negligence against the design–builder, alleging that the design-builder: 1) provided an improper design solution, and 2) failed to construct the system in accordance with the design specifications. Its damages sought, among other things, the cost of fixing the slope, as well as reimbursement for the funding it could have received from the Federal Emergency Management Agency under the Public Works Assistance Program if the project was completed and the road in operation.

The court denied the design–builder's motion for summary judgment on the negligence count, holding that:

> Here, HBI undertook the obligation to provide professional services to Shirttail Gulch. The failure to exercise reasonable care had the potential of increasing the risk of harm. Additionally, Shirttail Gulch and others relied upon HBI to exercise reasonable care in designing and constructing the earth retention system. While the obligation to provide an appropriate design and proper construction arose out of the contract, a duty existed to provide such services using "such skill and care ordinarily exercised by others in the same profession.…" Accordingly, the court finds HBI owed a duty to Shirttail Gulch, the violation of which gives rise to tort liability.[303]

The design–builder also attempted to have the court dismiss the breach of contract action. It claimed that, because the owner had not fully paid the design–builder under its contract, the owner did not suffer any damages. This motion was also rejected by the court. Noting that the damages available for breach of contract are intended to "put the owner in the same position had no breach occurred,"[304] the court found that there were several ways a jury could fashion a remedy. The design–builder suggested that the court could award damages that were limited to the amount left to be paid under the design–build contract. Another option was that it could award damages for: 1) the costs to remedy further damage to the road and surrounding slope, or 2) the reasonable cost of effecting a repair, which could potentially be an entirely new solution (e.g., a soldier pile wall). Each of these

[300] 2004 MT 70, 320 Mont. 351, 87 P.3d 431 (2004).

[301] An owner's ability to sue its design–builder for negligence is dependent on whether the applicable law enforces the "economic loss doctrine." This doctrine, which is recognized in about half of the states, does not allow one contracting party to sue a counterparty for negligence when its claim is based on economic (as opposed to personal injury or property) damages. It also will not allow a party to sue someone with whom it does not have a contract for economic damages (e.g., an owner suing a design–builder's subcontractor). *See generally* Allensworth, Altman, Overcash & Patterson, *supra* note 16, at 615–66.

[302] Civ. No. 10-5012-JLV, U.S. Dist. LEXIS 128107 (D.S.D. Sept. 10, 2012), 2012 WL 3929211 (D. S.D. 2012).

[303] *Id.* at 14.

[304] *Id.* at 17.

remedies exposed the design–builder to substantial potential losses stemming from its failed anchor block system.[305]

Occasionally, a design–builder's defective work cannot be determined at the time of substantial completion. *Appeal of American Renovation and Construction Company,*[306] which involved the construction of 194 units of military family housing at a base in Montana, provides an excellent example of an owner's remedies in this situation. The government furnished a design that had 100 percent completed specifications and 35 percent completed drawings. The government's design required that the units be built using slab-on-grade (SOG) construction with full basements. Shortly after the work was completed, the slabs heaved and the structures on the foundation backfill settled, causing widespread damage to the units.

Based on its belief that the design–builder's shoddy construction practices caused the damage, the government revoked its acceptance of the units and terminated the contract based on, among other things, latent defects and gross mistakes that amounted to fraud. The design–builder argued that the revocations and terminations were improper because the root cause of the problem was the government's specification of SOG construction on a site that was predominantly fat clay, which would heave if exposed to moisture. It also argued that the government's actual knowledge of its noncompliant construction methods precluded revocation and default termination.

The Armed Services Board of Contract Appeals agreed with the government. Its decision identified a plethora of workmanship problems by the design–builder, all of which violated the contract's detailed specifications. These deficiencies included: 1) using icy material 2 ft in diameter against the basement walls, which created gaps and voids that caused settlement; 2) leaving substantial amounts of debris in the backfill (e.g., a wooden fence post and steel stakes), making it difficult to achieve the specified level of compaction and creating a pathway for water to reach the expansive soils in the subgrade; 3) placing fill lifts substantially greater than the 8-in. specified (e.g., 6 ft to 8 ft in some instances); and 4) failing to dewater the excavations. The board found that these and other flaws combined to allow moisture to infiltrate the expansive foundation subgrade soil, causing that soil to swell and the basement slabs to heave. Once the slabs heaved, the upward pressure was transferred from the slab to the walls and all levels of the structure, causing all elements of the structure to move differentially. This resulted in major interior damages.

The board was heavily influenced by the fact that the design–builder failed to comply with the specification's QC plan and testing requirements. The design–builder conducted, on average, only 2 backfill tests around each building versus the 21 tests required. It did not take any tests in the backfill around 26.7 percent of the buildings. The board found that the design–builder hid these test results from the government by not submitting them in a timely or complete manner.

The design–builder argued that the problems were caused by the improper selection of an SOG design, pointing to pre-bid government foundation studies that advised against using SOG because of the potential for heave. The design–builder's expert corroborated this, finding that the government's SOG design was a "fatal flaw" and pointing to a number of other deficiencies in the specifications that exacerbated it. Based on this, the design–builder argued that, under the *Spearin* doctrine, it should be absolved from liability.

The board acknowledged that *Spearin* was theoretically applicable, as the government had specified the use of an SOG foundation. It found, however, that the design–builder failed to prove that the SOG design was unsuitable for its intended service. The fact that the government did not select the "best" or most expensive design, or a design that would ensure the maximum number of years of service, or a design that would require minimal repairs does not render it defective.[307]

The board believed the government's expert, who testified that, although there was some level of risk with the SOG, the flaws should not have appeared for 10 to 15 years if the work had been constructed per the specifications. Importantly, the board also noted that to prove the government breached its implied warranty under *Spearin*, the design–builder had to first show that it substantially complied with the specifications, which the design–builder in this case failed to do.

2. Failure to Meet Performance Requirements and Guarantees

When an owner uses objective performance specifications and has testing and guarantees built around those specifications, it is fairly easy to demonstrate liability on the part of the design–builder

[305] Because there is no later reported decision on this case, it is likely that the summary judgment ruling prompted the parties to settle.

[306] ASBCA No. 53723, 2009-2 B.C.A. ¶ 34,199, 2009 ASBCA LEXIS 37 (June 30, 2009); affirmed by *Am. Renovation and Constr. Co.*, ASBCA No. 53723, 2010-2 B.C.A. ¶ 34487, ASBCA LEXIS 42 (June 16, 2010).

[307] 2010 ASBCA LEXIS 42, at 15.

when the performance guarantees are not met. The *Strand Hunt* case[308] discussed in Section VI.D.5 provides an excellent example of the design–builder's obligations to meet a performance specification. A number of cases arising from the power, petrochemical, and process industries discuss the design–builder's obligations to meet performance requirements. The disputes in these cases are frequently over which party has responsibility for delays and whether liquidated damages are appropriate.

In *Fort Howard Paper Co. v. Standard Havens, Inc.*,[309] a paper company brought suit against a firm that designed, built, and installed a pollution control device in the company's plant. The device was designed to remove fly ash from the plant's flue gases prior to their emission into the atmosphere. Fly ash build-up on the filters of such devices can lead to higher operating costs, due to the greater power required to move the flue gases through the filter system. As a consequence, the filter manufacturer warranted the device against filter cloggage, as measured by the pressure drop of the flue gases across the surface of the device. Under this warranty, the maximum allowable pressure drop was not to exceed 6 in. of water. The paper company successfully sued when the pressure drop consistently exceeded this level.

Aiken County v. BSP Division of Envirotech Corp.[310] involved the design and supply of a thermal sludge conditioning system for a wastewater treatment plant that failed to meet its performance guarantees. The guarantees required that the system operate continuously on a 24-hour basis with not more than 15 percent of total time required for maintenance. The maintenance times for the first 3 months after start-up were 42 percent, 36 percent, and 42 percent of total time. Upon learning that the supplier had, despite its representations to the contrary, provided a new process that had never been successfully used or tested in a wastewater application, the owner sued for breach of warranty and fraud. The owner prevailed on both theories.

Gurney Industries, Inc. v. St. Paul Fire & Marine Insurance Co.[311] involved a design–build contract for a yarn manufacturing plant that had specific production requirements for output and quality standards. When the design–builder did not achieve these, the owner terminated the contract and successfully pursued a claim against the surety. The surety argued that the only recourse for its principal's failure to meet the requirements was that it would not receive its 10 percent retainage. The Fourth Circuit Court of Appeals found that the design–builder's agreement to meet the stated production objectives constituted warranties, not simply conditions to receive retainage, and held the surety liable for the owner's operating losses resulting from the deficient performance output.

3. Owner Involvement as Impacting Design-Builder's Responsibilities

Some design–builders have attempted to argue that the owner's knowledge, active involvement, or delayed actions absolve the design–builder from some or all of the liability associated with a problem. These arguments are generally unsuccessful, in large part because of contract language that requires the design–builder to meet its contract obligations, notwithstanding the owner's inspections or design reviews and approvals. Samples of these clauses in the design context were previously discussed in Section III.

Consider *Fluor Intercontinental, Inc. v. Department of State,*[312] which arose from the design and construction of a United States embassy complex in Astana, the capital of Kazakhstan. Fluor's 35 percent design submittal for the embassy's perimeter wall depicted a shallow continuous footing 1 m below grade and above the frost line, consistent with the recommendations of its geotechnical engineer. This differed from the design approach included in the RFP's design documents, which apparently showed a deep foundation.

After Fluor started construction on the perimeter wall, and 9 months after it had received the 35 percent submittal, DOS questioned whether the foundation design complied with the International Building Code (IBC), which was a contract requirement. Fluor ultimately confirmed that the IBC required that footings for structures must be below the frost line. Fluor subsequently modified its design and used a deep foundation system. Fluor complained, among other things, that DOS's failure to object to this earlier created delays and additional costs. In denying this element of Fluor's claim, the Civilian Board of Contract Appeals stated:

> [Fluor] seeks to distance itself from the responsibilities that it took on as the design/build contractor. The contract did not prescribe the design of the perimeter wall's foundations.

[308] ASBCA No. 55671, 2008 B.C.A. ¶ 33,868, 2008 ASBCA LEXIS 57 (May 22, 2008).

[309] 901 F.2d 1373 (7th Cir. 1990). This discussion is taken directly from Michael C. Loulakis, *The Current State of the Design-Build Industry, in* DESIGN-BUILD CONTRACTING HANDBOOK (Robert F. Cushman & Michael C. Loulakis eds., 2d ed. 2001).

[310] 657 F. Supp. 1339 (D.S.C. 1986).

[311] 467 F.2d 588 (4th Cir. 1972).

[312] CBCA 490, CBCA 491, CBCA 492, CBCA 716, CBCA 1763, CBCA 1555, 2012-1 B.C.A. ¶ 34,989, 2012 CIVBA LEXIS 89 (Mar. 28, 2012).

> Instead, the contract required Fluor to design the wall and its foundations. The contract did place certain conditions on Fluor with regards to its design. Fluor had to comply with the 2003 IBC, for example. This code required Fluor to take frost protection into account when it designed the wall's foundation. In this circumstance, to do so, Fluor had to extend the foundation below the frost line. …The fact that DOS did not discover the flaw in Fluor's approach until later in the project does not change Fluor's obligations. Even if DOS's action had some impact upon Fluor's choices, causing it additional costs or delay, Fluor failed to give DOS adequate and timely notice that a problem existed and that Fluor believed that the contract required DOS to solve it.[313]

Unfortunately, the decision does not explain why Fluor believed it had the right to use a shallow foundation system in light of the IBC's requirements.[314]

In *Appeal of American Renovation and Construction Company,*[315] which was previously discussed at length, the board rejected the notion that the design–builder's poor performance should be excused because 1) the government's inspector observed the defective work as it was being installed; and 2) QC reports recorded instances of defects in the work. "Merely keeping the reports in its job site trailer and making them available upon request does not…impute knowledge of the contents of those reports to the government."[316] The board also noted that the inspector was not responsible for discerning unseen problems developing below the surface. Citing to contract language, the board found that the fact that an inspector may have observed the design–builder performing defective work does not excuse the design–builder from its obligation to meet the contract requirements.

As discussed in Sections E.1 and F.2, *Glacier Tennis Club at the Summit, LLC v. Treweek Construction Company, Inc.*,[317] involved litigation arising out of the construction of a tennis facility. One of the key issues in the case was whether the owner's architect (Thompson) owed a duty of care to the design–builder and breached that duty by, among other things, failing to find the flaws in its design during the submittal review process. As discussed in detail in the following Section F.2, the court found against the design–builder, in large measure because there was no evidence that Thompson communicated professional information to the design–builder with the intention or knowledge that such information would be relied upon by the design–builder. Consider, however, how the Montana court may have evaluated this if it was the owner that directly communicated input about the design to the design–builder on an aspect of the design that was eventually faulty. It may have decided that the owner's involvement should be considered by the jury, notwithstanding contract language distancing the owner from liability.

The fact that an active owner can potentially impact its rights against a design–builder is demonstrated by *Allen Steel Co. v. Crossroads Plaza Associates.*[318] This case involved a commercial facility in Salt Lake City, Utah. In response to an owner's solicitation for design–build proposals for structural steel work, a contractor submitted a proposal containing three structural design alternatives. The proposal specifically stated:

> This proposal is offered for the design, fabrication, and erection of the Structural Elements only for the tower and mall. …Owner's engineer is to check this design and make changes if necessary to enable him to accept overall responsibility for the design. Changes that effect [sic] quantity, weight, or complexity of structural members will require an adjustment in price.[319]

The proposal was accepted, and the contractor was directed to prepare detailed plans for steel fabrication based on its proposal. During the course of

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[313] *Id.* at 157–58.

[314] Readers should note that other elements of the *Fluor* decision are instructive on the right of a design–builder to rely upon the RFP's geotechnical information. The Civilian Board of Contract Appeals looked to the role of Fluor, as the design–builder, and concluded that it could not rely upon such documents:

> This contract placed all of the responsibility for design and construction (and, as a consequence, all of the risk) on Fluor. While the Government provided Fluor with standard design documents and basic technical specifications developed for use for all embassy construction, the contract made plain that Fluor would be responsible for adapting the design to the specific location in producing the project construction documents. Bidders were expressly told in many different sections of the RFP not to rely on the drawings, as illustrated by the following: "drawings are for the sole purpose of illustrating the design intent of the owner"; "the Contractor remains solely responsible and liable for design sufficiency and should not depend on the reports provided by the [Government] as part of the contract documents"; and noting that the contractor would be responsible for adapting the design "according to the unique conditions of the site and other local and regional factors."

Because this case predates the *Metcalf* appellate decision, the precedential value of the decision relative to its findings on the reliability of the RFP documents is unclear.

[315] ASBCA No. 53723, 2009-2 B.C.A. ¶ 34,199, 2009 ASBCA LEXIS 37 (June 30, 2009); affirmed by *Am. Renovation and Construction Co.,* ASBCA No. 53723, 2010-2 B.C.A. ¶ 34,487, 2010 ASBCA LEXIS 42 (June 16, 2010).

[316] ASBCA LEXIS 42, at 24.

[317] 2004 Mt. 70, 320 Mont. 351, 87 P.3d 431 (2004).

[318] 119 Utah Adv. Rep. 6, 1989 Utah LEXIS 124 (1989), (withdrawn, 1991 Utah LEXIS 30 (1991)). Although this case was withdrawn and has no precedential value from a litigation perspective, it does provide an interesting example of how an owner's involvement can be perceived by a trier of fact.

[319] 1989 Utah LEXIS 124, at 5.

performance, however, inspectors from Salt Lake City stopped construction because of what they perceived as structural defects. The owner retained its own engineer to correct the defects. Steel had to be torn down to remedy the problem, resulting in delays to the project and substantial cost overruns. The owner backcharged the contractor for such costs, prompting litigation between the parties.

The sole issue in the case was whether the contractor effectively disclaimed responsibility for design defects by using its proposal to make the owner responsible for the design. The court found that although the owner had only provided general design parameters for the structural steel, the contractor had effectively disclaimed its responsibility, since it had provided a design for purposes of the bid and transferred the risk of verifying adequacy of the design to the owner.

Another case finding that an active owner may impact its ability to recover from a design–builder is *Weyerhaeuser Corporation v. D. C. Taylor,*[320] which involved a defective roof on a paper production complex in Iowa. The design–builder and a paper company formed a company to develop the project. A roofing subcontractor was obligated to build the project per the design it was provided. The paper company eventually bought the design–builder out of the deal. When the roof started to fail during the 10-year warranty period, the paper company sued the subcontractor. It did so by claiming that a warranty contained in the subcontract extended to the paper company.

The court ultimately dismissed the case against the subcontractor on two grounds. First, it concluded that the subcontractor had constructed the work as required by the design documents, which the paper company had been heavily involved in creating (potentially because of the corporate structure between the design–builder and the paper company). This design was defective and one of the major causes of the roof failure. Second, the court noted that there were construction defects because the layers of the roof had not been properly adhered. It found, however, that this was caused by the owner's insistence that asphalt be applied in cold temperatures. The subcontractor did its best to keep the materials warm, but could not keep them hot enough to create the proper adhesion.[321]

[320] No. C02-141-LRR, 2005 U.S. Dist. LEXIS 17283 (N.D. Iowa July 29, 2005).

[321] The decision does not explain why the paper company did not sue the design–builder. It appears likely that the corporate buy-out, or the agreement between the design–builder and paper company, either had a waiver of liability or shifted the warranty obligations from the design–builder to the subcontractors providing the warranty after a period of time.

4. Insurance Coverage for Defective Work

Many of the cases involving defects on design–build projects arise in the context of insurance coverage disputes. The typical case will involve one of the parties seeking to have the expenses incurred in repairing the defect covered by a commercial general liability (CGL) policy. Although there are some exceptions, most of these cases find that the CGL policy will not reimburse the design–builder for these expenses, based on common exclusions in the policy.

Consider *Penn National Security Insurance v. Design–Build Corporation,*[322] which involved concrete slab movement on an industrial building that resulted in $2.6 million in damages. The design–builder self-performed the design and much of the construction of the facility. The slab movement was noticed shortly after the owner started operating its equipment in the building. The owner sued the design–builder on the basis that it failed to design and construct the facility properly, which prompted the design–builder to sue its CGL carrier for both defense obligations and coverage.

The court granted summary judgment in favor of the insurance company, finding that the policy did not provide coverage for damage to the building, loss of use of the owner's machines, or loss of the owner's profits. It largely based its findings on the following exclusions:

- "Your Work"—This exclusion states that coverage is not available for property damage to the work of the insured.
- "Professional liability"—This exclusion precludes any damages caused by design or engineering mistakes, as distinguished from construction errors.

Each of these exclusions is found in all typical CGL policies. The "Your Work" exclusion essentially means that the design–builder is obligated to bear the commercial risk of correcting its own defects. The "professional liability" exclusion is to ensure that the CGL policy is not to be used to cover errors and omissions, which are the subject of a different type of insurance (i.e., professional liability insurance).

National Union Fire Insurance Company v. Turner Construction Company[323] involved the failure of a design–build curtain wall, where 20 percent of the pipe rail connections did not conform to the building plans. The failure resulted in damage to the building's facade, among other things. The owner sued the general contractor and design–build subcontractor for defects in design, fabrication, and installation. The contractors claimed that the CGL policy should

[322] No. 2:11-cv-02043-PMD, 2012 U.S. Dist. LEXIS 94012 (D.S.C. July 9, 2012).

[323] 119 A.D. 3d 103, 986 N.Y.S.2d 74 (2014).

cover the defense costs and claims. The court granted summary judgment in favor of the insurance company on the grounds that CGL policies do not afford coverage for faulty workmanship that results in damage to the insured's work (i.e., the "your work" exclusion"), or for breach of contract or warranty.

F. Designers' Liability for Design Defects

Only a handful of cases discuss the liability of a designer for design problems arising on design–build projects. This section will discuss the most common liability scenarios facing a designer working on a design–build project, when the designer is not the prime design–builder.

1. Design Deficiencies Made During the Proposal Process

Because most design–build procurements require the proposer to submit a technical proposal, the design–builder's designer has a substantial (albeit indirect) role in helping the design–builder develop its pricing assumptions. These preliminary designs serve as the basis for quantity take-offs, equipment selection, layout assumptions, and a variety of other facets of the estimate. If these proposal-based assumptions change as the design advances after contract, there is likely no opportunity to seek recovery from the owner, unless the owner has changed the design. As a consequence, the design–builder may look to the designer for compensation for the increased costs.

As noted in Section VIII, professional liability carriers have experienced a number of claims arising out of allegedly defective designs furnished during the proposal process. Most of these are settled or arbitrated and not subject to written decisions. There are two important cases, however, that explain designers' duties and obligations in this situation.

One of the most well-recognized cases is *C.L. Maddox, Inc. v. The Benham Group, Inc.,*[324] which involved the remodeling of a coal processing system at an electric power plant in Illinois. Maddox, a general contractor, agreed to provide a design–build proposal to the owner for the work. As part of developing this proposal, Maddox entered an oral agreement with Benham, whereby Benham was to prepare drawings, specifications, and equipment lists and quantity information for the proposal. The owner authorized payment of approximately $60,000 to Maddox to pay for Benham's services.[325]

On the basis of Benham's work product, Maddox submitted a formal proposal to complete the design and construct the work. It signed a contract with the owner in September 1990 for approximately $10 million. This led Maddox and Benham to enter into a subcontract for design services for approximately $600,000. The subcontract was signed in September 1990, but predated to June 1, 1990, which is when Benham was authorized to perform its proposal-related services. The subcontract contained a standard integration clause, which said that the written contract "represents the entire agreement between [the parties] and supersedes….prior negotiations, representations or agreements."[326]

The relationship between Maddox and Benham was problematic from the start of the project. Maddox claimed problems with Benham's performance, including the fact that the drawings were often late and insufficient, that Benham had underestimated the amount of work needed to complete the final design, and that because prints for the electrical components of the project were not available, Maddox ended up having to install part of the wiring without plans.

Maddox eventually sued Benham and successfully convinced the jury to award over $5 million in damages, including over $2.7 million for bidding errors, engineering errors, and delays caused by Benham. During the trial, Maddox introduced testimony that it relied heavily on the material quantity estimates provided by Benham, since Benham possessed all of the design information.

Benham appealed to the 8th Circuit Court of Appeals and cited two primary grounds for overturning the jury's award. First, it argued that the existence of the oral contract should not have been disclosed to the jury, since the contract had an integration clause where the written subcontract was to represent the entire agreement between the parties and superseded any prior oral agreements. The reason that Benham wanted to rely on the written subcontract was that it contained a provision stating that Maddox, not Benham, was to furnish all cost estimating services required for the project.

The Eighth Circuit disagreed, finding that the oral contract was a separate, stand-alone agreement between the parties and had been entered into, executed, and paid for by the time the written contract was signed. It pointed to the title of the subcontract ("Agreement—Final Design") and found that it was reasonable to assume that the parties might adopt a different arrangement on cost estimating responsibilities for preliminary engineering services, such as preparing an initial bid for the project.

[324] 88 F.3d 592 (8th Cir. 1996).

[325] The memo describing the oral contract stated: "[Owner] approves $58,200 for [Benham] to begin in-depth study of equipment layouts, equipment sizing and to supply necessary information and assistance for [Maddox] to prepare a final construction cost (lump sum) for the project. [Benham] is to develop a final lump sum engineering cost." *Id.* at 596.

[326] *Id.* at 600.

Benham's next argument was that even if the oral contract governed, it never warranted the accuracy of the bidding information it supplied to Maddox and therefore could not be liable for breach-of-contract damages. Again, the Eighth Circuit disagreed, stating that under Missouri law, "when a company represents itself as being able to do work of a particular character, a warranty is implied that the work will be performed properly."[327] The court held that Benham repeatedly assured both Maddox and the owner that it was well-qualified to do the work and had the necessary manpower and expertise. This, coupled with Maddox's testimony that it relied on Benham's bidding information "because only Benham knew precisely what was going to be designed,"[328] was sufficient to create an implied warranty and liability for the bidding errors.[329]

Another major case in this area is *CRS Sirrine, Inc. v. Dravo Corp.*,[330] where a contractor and designer agreed to pursue, as a joint venture, a fixed-price design–build contract for the construction of a naval power plant. The parties entered into a letter agreement whereby the designer would assume the lead in preparing a technical proposal to the Navy. If the Navy accepted the technical proposal, the contractor was to assume the primary responsibility for preparing the bid. The letter agreement further provided that, although the designer was responsible for supplying the technical information needed to prepare the bid, it would not guarantee the accuracy of the contractor's estimates used in preparing the bid. The joint venture's bid was successful, and the Navy awarded it a $100-million-plus design–build contract.

When the contractor experienced more than $30 million in losses in constructing the plant, it brought suit against the designer, alleging that its breaches caused more than $12.5 million of the loss. It claimed that a substantial portion of its damages resulted from increased material quantities over the estimates provided by the designer during the bid process.

The trial court found that the designer breached its contractual and fiduciary duties to: 1) provide sufficient accurate information to the contractor upon which to base its bid; 2) make reasonable efforts to design the project; 3) track quantities in its design; and 4) notify the contractor that quantities would be exceeded. It apportioned fault between the parties and concluded that the designer's breaches caused damages to the contractor of approximately $5.5 million.

The designer appealed, relying primarily on a clause in the joint venture agreement that read, in part: "Notwithstanding any of the forgoing (sic), [designer] shall have no risk, liability, or accumulation will occur of error and omission charges for construction material quantity variations if the actual quantities are different from those in the bid to the Navy."[331] The designer argued that this sentence unambiguously released it from any responsibility for damages resulting from increases in construction material quantities.

The appellate court disagreed, finding this sentence to be ambiguous in light of other provisions of the joint venture agreement that imposed responsibility on the designer for its errors and omissions. For example, the agreement contained a clause requiring each party to accept full responsibility for its scope of work and indemnifying the other for damages resulting from untimely, defective, or nonconforming work. Another provision stated that the designer was not liable for the first $750,000 in damages resulting from engineering errors and omissions. The court viewed this as a "deductible" on damage claims against the designer for errors in its design and engineering work.

A New York Superior Court decision, *Metropolitan Steel Industries, Inc. v. Perini Corp.*,[332] provides an interesting twist on the *Maddox* decision. This case involved a three-way dispute among a design–builder, a steel erection trade subcontractor, and the design–builder's engineer on a New York City Transit Authority (NYCTA) bus depot. Perini Corporation (Perini), a general contractor, teamed with STV, Incorporated (STV), an engineering firm, to develop a bid. Perini was the successful bidder and entered into an $88-million design–build contract with NYCTA.

[327] *Id.*

[328] *Id.*

[329] There is one other important element to the *Maddox* case that is unrelated to the errors in the bidding information. Maddox cited to the fact that the Benham subcontract required Benham to keep Maddox "informed of the progress and quality of the Work" and endeavor "to guard [Maddox] against defects and deficiencies in the Work of [Maddox]." Based on this clause, Maddox claimed and was awarded by the jury $1.2 million for damages due to errors by Maddox or the owner. The Eighth Circuit overturned this part of the verdict, finding that this clause could not be construed to impose upon Benham the duty to guarantee that Maddox would not make any errors. In reaching this conclusion, the court looked to the language of another clause, which stated that: "[Benham] shall not have control or charge of and shall not be responsible for construction means, methods, techniques, sequences or procedures...*for the acts or omissions of [Maddox]*, [Maddox's] subcontractors or any other persons performing any of the Work, *or for the failure of any of them to carry out the Work in accordance with the Construction Documents.*" (Emphasis added by the court.) *Id.* at 602.

[330] 213 Ga. App. 710, 445 S.E.2d 782 (Ga. App. 1994).

[331] *Id.* at 715, 445 S.E. at 788.

[332] 6 Misc. 3d 1002(A), 800 N.Y.S.2d 350, 2004 N.Y. Misc. LEXIS 2835, 2004 N.Y. slip op. 51698 (U) (2004).

STV was designated in the contract as the project's "Design Professional." Perini and STV entered into a $3.2-million subcontract that placed design responsibility on STV. The subcontract provided, among other things, that: 1) STV was to review, check, and advance the NYCTA's preliminary drawings to completion; 2) STV's design was subject to Perini's revisions and directions; and 3) STV had to meet certain target dates for critical design drawings for bidding and construction. Perini also entered into a number of trade subcontracts, including one for $9.6 million with Metropolitan Steel Industries, Inc., doing business as (d/b/a) Steelco (Steelco), wherein Steelco was to fabricate and erect structural steel and a metal deck for the project.

The project was almost immediately plagued by problems and design changes. Some problems were apparently attributable to design changes directed by NYCTA after Perini and STV alerted NYCTA that the project's RFP was not compliant with New York law. Other design modifications were attributable to the fast-track schedule of the project. Steelco started sending letters to Perini within weeks of starting its work, complaining that STV was not providing accurate structural steel designs and that Steelco was being delayed as a result. Steelco also complained that it was being delayed by the late work from other trade subcontractors. Although Steelco did start structural steel erection, Perini ultimately terminated Steelco and completed its remaining work.

Steelco's termination prompted lawsuits and formal claims among the project participants. Steelco sued Perini and its sureties for $4.5 million in damages arising from unpaid change orders and delays. Perini then brought a third-party action against STV, seeking more than $11 million in damages and alleging that STV was obligated to hold Perini harmless from Steelco's claims. Perini also alleged that STV provided erroneous information and design drawings during the proposal period, partly because STV had not alerted Perini to the possibility of potential code violations or the necessity of increasing the emergency generator capacity. Perini further claimed that STV's final drawings contained errors in the design of fans, ductwork, masonry, curtain wall fireproofing, and other construction areas. STV filed a $3.9 million counterclaim against Perini alleging, among other things, that Perini misrepresented the scope of work that STV would have to perform.

STV filed a motion for summary judgment on Perini's hold harmless claims, arguing that the Steelco complaint focused on Perini's wrongdoing, not STV's alleged wrongdoing. The court agreed with STV on a variety of reasons and dismissed these causes of action as a matter of law. It observed that the STV subcontract "unambiguously" limited STV's indemnity to instances where claims were asserted for property damage or personal injury directly attributable to STV's negligence. Since the indemnity clause said nothing about economic losses (such as Steelco's claims), the court concluded that nothing in Steelco's pleadings triggered STV's contractual duty to indemnify Perini.

The court then examined whether STV had an "implied" obligation to indemnify Perini. In assessing this, it considered established New York precedent holding that there "is no right to recovery under a theory of implied indemnification, unless the party seeking indemnity has delegated exclusive responsibility for the duties giving rise to the loss, to the party from whom indemnification is sought."[333]

The court found the terms of the subcontract clearly showed that Perini had not exclusively delegated all responsibility for design to STV. The subcontract demonstrated that Perini had not only "retained the unfettered right to approve or reject or issue directions regarding STV's design," but it also had "exclusive control over the construction of the Project, and the means and method of construction."[334] The applicable clauses stated:

> [STV] will revise drawings as necessary to comply with Perini requirements.
>
> [STV] will consult with, and follow the direction of Perini when choosing design alternatives and options permitted within the project constraints and in accordance with accepted professional standards, the Contract Documents, and all applicable codes and rules.....
>
> [STV] shall not have control or charge of construction activities and shall not be responsible for construction means, methods, techniques or procedures, or for safety precautions, or programs or the acts or omissions of Perini and/or their subcontractors, or for the failure of any of them to carry out the work in accordance with the Contract Documents.[335]

The court also looked at evidence proffered by STV that Perini followed these clauses and, in fact, maintained control over each subcontractor's performance throughout the project. STV alleged that it was required to, and did, participate in regularly-held design review meetings at which Perini and various subcontractors examined and commented on STV's design drawings at each stage of the design process. At the end of these meetings, STV was required to incorporate Perini's design suggestions into the project design, even if STV objected to these suggestions. Perini also initiated various design changes over the life of the project, and STV was compelled to integrate them into the design. As a result of these and other factors, the court rejected

[333] *Id.* slip op. at 12.

[334] *Id.* slip op. at 13.

[335] *Id.*

the notion that STV could be liable to Perini on an "implied" indemnity theory.

The final avenue Perini pursued to obtain indemnity from STV on the Steelco claims was through an argument that STV had breached its contractual warranty to "perform its duties in a manner consistent with the degree and skill ordinarily exercised by members of the same profession."[336] The subcontract language stated:

> In the event that as a result of [STV's] work having failed to comply with the [applicable standard of care] and that failure is determined to have been the cause of a failure to achieve compliance with Perini's warranty obligations [to the NYCTA], the Engineer shall be fully responsible for redesign necessary to achieve compliance and for the cost of any replacement and/or retrofit and/or corrective work, all subject to approval by Perini and NYCTA. The Engineer's obligation shall be limited to costs incurred in excess of the stated limits of the Owner's Controlled Insurance Program.[337]

The court found this clause to be a limited remedy and did not construe it as requiring STV to compensate Perini for a breach of warranty unless there was a failure to achieve compliance with Perini's warranty obligations to NYCTA. Since there was no such allegation in the Steelco lawsuit, and since NYCTA had asserted no such claim, then the breach of warranty theory could not be used to recover money Perini spent relative to Steelco.

The court next turned to whether STV could be liable for the pre-proposal damages allegedly sustained by Perini. The court first noted that the subcontract only addressed post-proposal services and said nothing whatsoever about STV's obligations prior to contract award. It also looked to the express terms of the subcontract, which stated that the subcontract represented the "entire agreement between Perini and [STV] and supersedes all prior negotiations, representations or agreements."[338] The court viewed this "integration" clause as barring Perini from introducing any evidence as to an inconsistent, oral agreement.

In an attempt to overcome this defense, Perini argued that there was an "independent and wholly separate" teaming agreement between the parties. Perini claimed that this oral agreement was entered into during the proposal phase of the project, and as a result, Perini relied on STV to: 1) undertake a complete review of the RFP to determine that it was code-compliant and technically accurate; 2) note all potential engineering or design problems related to the preliminary design; and 3) provide pricing information for Perini's cost proposal. It argued that because the oral teaming agreement was separate and independent from the written subcontract, the "integration" clause in the subcontract could not bar its claims for breach of the oral contract.

The court rejected this argument. First, it noted that Perini's third-party complaint said nothing about an oral contract, and the complaint specifically alleged that all of Perini's $11 million in contract damages arose from breaches of the written subcontract. The court also found that the evidence offered by Perini to demonstrate the existence of an oral contract—such as meeting minutes authored by Perini and never signed by STV—was insufficient to establish that an oral contract existed.

These three cases provide stark reminders about the potential liability designers face for their proposal-related work, particularly for quantity errors.[339] They also explain the importance of clear contract terms that reflect the parties' intentions when something goes wrong. The absence of a written teaming agreement for Benham's proposal-related services affected how the *Maddox* court analyzed Benham's liability. A teaming agreement would likely have provided clarity on what would have happened if Benham's quantities were wrong. Although *Sirrine* was based on a written joint venture agreement, the language was ambiguous regarding liability for errors and omissions and led to the major verdict against it. The design–builder in *Perini* obviously attempted to craft its position on pre-proposal damages based on the *Maddox* case, but was unable to convince the court that there was an oral agreement for these services that was separate and distinct from the written subcontract.

[336] *Id.* slip op. at 16.

[337] *Id*.

[338] *Id.* slip op. at 17.

[339] The risk of quantity growth is a particularly significant issue on design–build projects, given that the design–build contract price is committed to prior to the completion of the design documents. While *Maddox* and *Sirrine* discussed these issues in claims against the designer, at least one published decision has discussed this in a suit by a steel subcontractor against the design–builder. Carolina Steel Corp. v. Palmetto Bridge Constructors, 444 F. Supp. 2d 577 (D.S.C. 2006) arose out of the Cooper River Bridge project in South Carolina, which is the subject of a case study in Section XIII. This published decision is the outcome, to some extent, of the design problems discussed in that case study. The original purchase order included a clause providing that a "[s]ubstantial deviation in design may necessitate a change in cost which will be determined on a case by case basis per the Terms and Conditions of the Purchase Order." The purchase order set forth the following examples of a substantial deviation in design: "changing fillet welds to full penetration welds, changing straight girders to curved, changing structure designed as an I-girder structure to boxes, and changes in lengths of individual girders that exceed 160 lineal feet." The Released for Construction Drawings ultimately reflected that the bridges had increased weight and complexity because of, among other things, earthquake, hurricane, and ship collision criteria. The issue in the case was whether the subcontractor could prove that $1.5 million in claimed costs were the result of "substantial deviations." The court awarded the subcontractor over $1 million on its claim.

2. Failure of Design to Achieve Performance Guarantees

As previously discussed in Section E.2, a design–builder may face a breach of contract claim from an owner if the design–builder fails to meet a performance guarantee. Because the design might be the cause of the failure, designers can also face claims. Although the most common claim would be for professional negligence, one case, *Arkansas Rice Growers Cooperative Ass'n v. Alchemy Industries, Inc.*,[340] found that the designer had impliedly warranted that its design would achieve the specific performance guarantees.

This case involved the construction of a pollution-free rice hull combustion plant capable of generating steam and marketable ash from the rice hull fuel, with the rice hulls being the only fuel for the plant's furnace. The plant's owner executed a contract with the process technology owner (Alchemy), whereby Alchemy agreed to hire the engineering firm that had developed the process technology (Pitt). Each committed to provide:

> [The] necessary engineering plant layout and equipment design and the onsite engineering supervision and start-up engineering services necessary for the construction of a hull by-product facility capable of reducing a minimum of 7½ tons of rice hulls per hour to an ash and producing a minimum of 48 million BTU's per hour of steam at 200 pounds pressure.[341]

The plant's owner acted as its own general contractor to build the plant to Pitt's design, including procuring and installing pollution control equipment. The completed plant was to be operated in accordance with the instructions and procedures provided by Alchemy. Alchemy was to receive all of the ash produced from the plant.

The plant, which was designed to operate daily on a 24-hour basis, never performed as anticipated. It was repeatedly shut down because of a build-up of hulls in the furnace and an inability to comply with state air pollution control standards. The primary reason for this was that the furnace system designed by Pitt could not support combustion at a temperature low enough to produce quality ash without the aid of fuel oil when the outside temperature fell below a certain level. For 3 years, Alchemy and Pitt tried unsuccessfully to get the plant to operate per the specifications. The plant was eventually closed.

The plant's owner successfully sued Alchemy and Pitt for breach of contract and negligence on the basis that these parties failed to design a plant capable of meeting the performance requirements. Citing to *Spearin*, the Eighth Circuit Court of Appeals upheld this verdict. It found that Alchemy and Pitt had provided a warranty that Pitt's design would achieve the performance criteria and that they should be liable for the consequences of failing to do so.[342] Significantly, the court never looked at Pitt's liability from a standard of care perspective. Finding that the plant's owner was a third-party beneficiary of the Alchemy–Pitt contract, the court only focused on Pitt's contractual obligation (i.e., warranty) to deliver a design that met the performance criteria.

A similar problem occurred in the construction of a plant to make blocked iron through a new and recently patented process. In *Day and Zimmerman, Inc. v. Blocked Iron Corporation of America,*[343] Day and Zimmerman (D&Z) signed what appeared to be a standard engineering, procurement construction (EPC) contract that committed to make the blocked iron with specific performance requirements, including a specific capacity. For more than a year after start-up, the plant failed to operate profitably. The parties argued about whether D&Z had guaranteed the production rates and the maximum cost of the project. The court ultimately concluded that D&Z had not warranted the plant's performance and held it to a "professional negligence" standard. The court did nevertheless conclude that D&Z was negligent, as it purchased equipment that was "wholly incapable of furnishing the necessary heat required by the duty specification."[344]

Although the designers in *Arkansas Rice Growers* and *Day and Zimmerman* each had liability for ultimately failing to meet performance guarantees, the different ways the courts reached these results are significant and demonstrate the importance of a contract's wording. The court in *Arkansas Rice Growers* used a "black and white" liability assessment, finding the designer liable simply because the plant did not meet the guarantees. The court in *Day and Zimmerman* looked at this from the lens of what a "reasonable engineer" would have done to meet the standard of care.

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[340] 797 F.2d 565 (8th Cir. 1986).

[341] *Id.* at 566.

[342] Alchemy and Pitt never contested that Pitt's design did not meet the performance criteria and that fuel oil was needed. They argued, however, that the air pollution control equipment selected by the plant's owner contributed to the problems. Both the district court and the appellate court found that the problems attributable to the faulty air pollution control system, as well as some other problems caused by owner-furnished equipment, did not manifest themselves until several years after it was evident that the plant was incapable of achieving the performance criteria on a sustained basis. More importantly, these courts found that even if this other equipment had worked properly, the entire plant would not have been able to perform in accordance with the terms of the contract because of deficiencies in Pitt's design.

[343] 200 F. Supp. 117 (E.D. Pa. 1960).

[344] *Id.* at 122.

3. Liability to Third Parties

Other than *Arkansas Rice Growers,* the cases previously discussed arise out of the designer's contracting relationship. There are, however, several design–build cases that examine the potential liability of the designer to third parties. These cases are often discussed in the context of the economic loss doctrine, which was examined in detail in Section II.F.

A recent case, *Westfield, LLC v. IPC, Inc.*,[345] considered the question of whether a contractor could sue its design–build subcontractor's designer on a precast parking structure. The litigation arose because of concrete cracking, movement, and water intrusion in the structure that was noticed approximately 5 years after completion of the structure. The owner's investigation found what it considered to be multiple design and construction defects in the structure.

The designer asked for summary judgment on several bases, including the fact that the economic loss doctrine prohibited the contractor from suing it because they lacked a contractual relationship. The court looked to Missouri law, concluded that claims for professional negligence are not barred by the economic loss doctrine, and denied the motion to dismiss the designer from the case.

A different result was reached in *Hawkins Construction Co. v. Peterson Contractors, Inc*.[346] This case applied Nebraska law relative to an economic loss doctrine defense on a road project for the Nebraska Department of Roads (NDOR). The design–build contract involved an intermediate foundation improvement to increase the allowable global stability beneath an MSE wall. The design–builder entered into a subcontract with a design–build subcontractor for the foundation. The subcontractor had two designers working for it.

NDOR found the work defective and demanded that it be removed and replaced. The prime design–builder did so, and then sued its subcontractor and the two designers for breach of standard of care and for failing to properly design and perform their work. The design–builder attempted to argue that the designers breached an implied warranty that the work would be "erected in a reasonably good and workmanlike manner and reasonably fit for the intended purpose."[347] It cited to construction cases as authority. The court rejected this, finding that cases involving "workmanlike manner issues" do not apply to design professionals, as they do not construct anything. The court also stated that Nebraska law allowed no exceptions to the economic loss doctrine. Because there was no privity of contract between the design–builder and the defendant designers, they could not be held liable for professional negligence to the design–builder.

Readers should note that many other design–build cases address the applicability of the economic loss doctrine.[348] Because the applicability is state law-specific, it is important for those working on design–build projects to have a strong understanding of this before starting work in a particular state. Readers should also note that there are a variety of cases around the country that generally address a designer's liability to third parties that are injured as the consequence of a design defect. These cases, which arise out of design–bid–build relationships, follow the principles discussed in Section II relative to negligence claims.[349]

4. Liability of the Owner's Design Professional

As design–build has become more popular, designers often find themselves providing owners with preliminary designs and then helping the owner during the execution of the project by, among other things, reviewing the design–builder's design submittals. While the designer is not serving as the "designer-of-record," it could have potential liability if something goes wrong, as evident by the two following cases.

Glacier Tennis Club at the Summit, LLC v. Treweek Construction Company, Inc.,[350] was previously discussed in Sections E.1 and E.3. It involved litigation arising out of the construction of a Montana tennis facility. The owner hired an architect (Thompson) to provide preliminary design documents

[345] 816 F. Supp. 2d 745 (E.D. Mo. 2011).

[346] 970 F. Supp. 2d 945 (D. Neb. 2013).

[347] *Id.* at 950 (citations omitted).

[348] For example, Kalahari Development, LLC v. Iconica, Inc., 340 Wis. 2d 454, 811 N.W.2d 825 (2012), considered the economic loss doctrine in Wisconsin relative to whether a negligence action could be brought against the design–builder. The project involved moisture damage in the walls of a water park resort and conference center, allegedly caused by a defectively designed and installed vapor barrier. Similar to the result in *Hawkins*, the court concluded that Wisconsin law did not permit the economic loss doctrine to apply against design professionals.

[349] One interesting exception to design liability to third parties is seen in Florida, under the so-called *Slavin* doctrine. This doctrine prevents an injured plaintiff from holding a contractor liable for injuries caused by a patent, or obvious, defect in construction after control of the property has been turned over to the owner after completion and acceptance of construction. *See* Slavin v. Kay, 108 So. 2d 462 (Fla. 1958). It was recently held applicable, however, to an engineer that was sued by the estate of a deceased motorist because of an allegedly defective guard rail. The court held the Department of Transportation had accepted a defective guard rail that ultimately may have led to the death, and because the department was apparently aware of the defect during the design phase, the engineer could not be liable. Transp. Eng'g, Inc. v. Cruz, 152 So. 3d 37 (Fla. Dist. Ct. App. 2014).

[350] 320 Mont. 351, 87 P.3d 431 (2004).

for the procurement and also to review the design submissions of the design–builder (a general contractor) during project execution. After the project was completed, the building began to leak from below-ground exterior walls, and a bulge was found in the surface playing area of one of the tennis courts. The owner also found, during its investigation of the problems, that a vapor barrier had not been installed underneath the facility, and that this resulted in the facility experiencing excessive radon levels.

The owner sued the design–builder for negligence and breach of contract. This prompted the design–builder to sue its design subconsultants, tennis court subcontractor, and Thompson. With the exception of the design–builder, the trial court dismissed all of the above parties on summary judgment. The jury found against the design–builder.

The design–builder appealed on several grounds, including that Thompson should not have been dismissed from the lawsuit. It argued that Thompson was negligent in his preparation of plans for construction of the facility and his review and approval of plans and designs submitted for his review. The design–builder believed that Thompson's continuing involvement in the project made it reasonable for the design–builder to believe that Thompson was reviewing and approving its design and would notify Treweek of any potential defects. Thompson denied that he owed any duty of care to the design–builder, contractually or otherwise, and maintained that the design–builder was unjustified in relying on him as the project architect.

The Montana Supreme Court determined that Thompson could, in theory, owe a duty of care to the design–builder even though they did not have a contract. This would be so only if Thompson "communicated professional information to [the design–builder] with the intention or knowledge that such information would be relied upon by [the design–builder]."[351] The court did not find, however, that the design–builder met this standard and upheld the trial court's decision to dismiss Thompson on summary judgment. There was no evidence that Thompson offered any guidance to the design–builder. Any construction administration services done by Thompson relative to the review of the design–builder's progress were for the benefit of the owner, not the design–builder. There was also no evidence that Thompson communicated any professional information to the design–builder during its review of the design–builder's design, or that Thompson's design reviews were to be relied upon by the design–builder as validating its design.

A case that considered an engineer's liability to an owner under a performance specification/guarantee is *Evergreen Engineering, Inc. v. Green Energy Team, LLC.*[352] This case involved a biomass-to-energy plant on Kauai, Hawaii, with the plant using locally produced wood waste products as its feedstock. The plant's owner hired an engineering firm to do front-end engineering and conceptual design of the plant.

Based on the engineer's recommendations, the owner contracted with an equipment vendor for the gasification and boiler system that guaranteed that the plant would not have to use more than 201 tons per day of wood feedstock. This system ultimately proved faulty, as it was learned that 240 tons of fuel per day were needed to operate the gasifier system at the required efficiency level. The owner claimed that this affected the pro forma financials and economic viability of the project, not only because of the added cost of the feedstock, but also because compliance with its air permit would require the plant to operate fewer hours or at a lower output than intended under its power purchase agreement.

As a result of the miscalculation in tonnage, the parties became involved in litigation over a number of issues. Central to the case was the interpretation of the following clause in the owner–engineer contract, which came from the engineer's proposal and was incorporated into the contract:

> Overall plant performance guarantee will be achieved via guarantees by suppliers of individual equipment and the undertakings of the Contractor and certain project investors as well as by the undertaking of Evergreen in this Agreement. Equipment performance guarantees will be written into the specifications for each piece of major equipment with financial penalties for performance shortfalls. Factory performance tests combined with onsite performance testing will verify that equipment is achieving desired performance. A highly qualified design team is being proposed for this project with the necessary experience to design and support your project during construction. The design will be performed in our Eugene, OR office. Evergreen will work together with your Construction Manager, Contractor and Owner's Representative to ensure that your project is designed and built to the high standards you require in order to achieve your continual goals.[353]

The owner claimed this created a guarantee of the plant's performance and made the engineer liable for the performance of the equipment vendor. The engineer argued that this was not a design–build or engineer–procure–construct (EPC) contract, in which the risk of performance was shifted to the designer, but was simply a modified design–bid–build delivery system, where no guarantees of performance were provided. The engineer moved for summary judgment on the owner's breach of warranty count, alleging that its only duty was to provide its services in a non-negligent manner.

[351] *Id.* at 360, 87 P.3d at 438.

[352] *Id.* at 360, 87 P.3d at 438.

[353] 884 F. Supp. 2d 1049 (D. Haw. 2012).

The court ultimately declined to grant summary judgment, concluding that the provision was ambiguous and that what was intended by its terms would have to be decided in a trial. The court did note, however, that by including the term "overall plant performance guarantee," the agreement memorialized the engineer's "assurance" regarding overall plant performance. What was unclear to the court was the scope of the guarantee and the assurance of the specific contours of "overall plant performance." The court's opinion expressed a concern about using the above-quoted language to create the same obligation as would arise under a turnkey contract, and distinguished the result in *Arkansas Rice Growers,* where the guarantee was much more clearly stated.

G. Liability for VE and ATCs

VE is frequently used in public-sector design–build projects to obtain the design–builder's cost-cutting ideas. If the agency is using a procurement process that does not allow for pre-award discussions to take place with the design–build proposers (e.g., single phase low bid), any VE will be done after contract award. This process has limitations, as it does not allow the agency to learn of cost-cutting ideas from the proposers that were not selected as the design–builder. It also does not allow the agency to reward those who develop VE ideas during the procurement process.

As design–build has become more common, owners have allowed VE ideas to be introduced during the procurement process through the use of ATCs. From a design–build perspective, the major liability issue for VEs and ATCs involves answering the following question—who has the risk if the VE or ATC does not work as expected? Given that the designer-of-record is part of the design–build team, it would appear that the design–builder, rather than the owner, would face the ultimate liability. It is not clear what happens in a design–build scenario, however, if both parties have presumed that an ATC will work, but, when the actual engineering is performed, it turns out to be impractical or impossible.

Contract language will typically shift this risk to the design–builder. There are theories of "mutual mistake," however, that may result in this risk being shared by both parties or, potentially, resulting in the contract being considered unenforceable.[354] This remedy is not one that is used indiscriminately by courts. It is likely that it would be implicated only in the event that the ATC was so significant as to make it unfair to require the design–builder to perform the original design based on its commercial terms for the ATC.[355] There are no reported cases as of yet that answer the above question regarding liability for ATCs.

There is a private-sector design–build case that addressed a design–builder's potential liability for having made a VE recommendation that the owner later regretted. *Baker County Medical Services, Inc. v. Summit Smith L.L.C.*[356] involved an owner hiring a design–builder for a new hospital facility. The contract was based on a two-phase approach, with the first phase for planning, design, and preconstruction services. During that phase, the design–builder developed and submitted a commercial proposal to complete the design and construct the facility based on the design documents it created in the first phase. The second phase involved the actual final design and construction.

The design–builder's initial HVAC design called for the use of a chiller for the hospital's HVAC system. Because the owner was highly concerned about overall cost, the parties engaged in extensive VE discussions. The owner's engineer and design–builder collaborated on options relative to the HVAC system, one of which was a direct expansion system (DX system) powered by multiple rooftop units. The owner ultimately chose the DX system based on significant cost savings.

Unfortunately, immediately following completion of construction, the hospital's cooling system malfunctioned. Multiple corrections were made by the design–builder, but the owner was never satisfied with the results. The owner ultimately sued the design–builder for negligently designing and installing the DX system, alleging it was undersized and had installation defects. It also argued that the design–builder should never have recommended the DX system for a hospital, because it had much higher energy and maintenance costs compared to the chiller system.

The court concluded that the design–builder had properly designed and installed the DX system, and found that the owner's performance issues were likely caused by the owner's poor maintenance of the system. It also rejected the notion that the DX system recommendation was improper. Although all of the testifying experts concluded that a chiller system would be the better option for a hospital, particularly if "first cost" was not a concern, none of them concluded that a DX system was *per se* improper for a hospital.

The court's decision focused on the "first cost" issue. By choosing the less-expensive, DX system,

[354] NCHRP Synthesis 455, at 11.

[355] *Id.*

[356] Case No. 3:05-cv-541-J-33HTS, 2008 U.S. Dist. LEXIS 44154 (M.D. Fla. 2008).

the court noted that the owner received the benefits of significant upfront savings, which allowed it to expand the size of the medical office building. The court found that the owner, when presented with the option of a lower-cost HVAC system, "made the deliberate choice to save on initial costs and expand the medical office building."[357] It also noted that although, in retrospect, the chiller system would have been a far better option than the DX system, the design–builder satisfied its contractual and professional obligations to the owner in presenting the DX system as an option:

> The Court finds that [the design–builder] did recommend the chiller system as the best option for a hospital by including the chiller system in the original construction plans and contract. The DX system was only presented as an option after [the owner] made the determination to try and lower the initial costs and expand the medical office building.[358]

Several other cases have addressed VE liability on projects using other types of delivery systems. Consider for example, *Rodman Construction Co., Inc. v. BPG Residential Partners, LLC,*[359] which involved the extensive use of VE on what appears to be a multiple prime contracting project. In this case, the details were never agreed on and a fight ensued, particularly over the consequences of using a different exterior wall system than originally planned. The court characterized it this way:

> Further, as is frequently done in the industry, the owner and construction manager attempted to "fast track" the project through a "design–build" process by starting work on its early portions while design details and their associated contractual arrangements were still being planned for later phases. And they conducted "value engineering," modifying designs to save costs when initial cost estimates exceeded project budgets. Haste can, and did, make waste, however; and when the risks inherent in such an approach materialized, the parties came into conflict about their respective rights and duties, generating plaintiffs' eight claims and defendants' three counterclaims at issue here.[360]

Consistent with the *Rodman* decision, it is not unusual for parties on public projects to be less than clear on documenting VE changes. The risks can be significant if there is ultimately a dispute over what was agreed on.

H. Limitations of Liability and Consequential Damages

As previously noted in Section III, large-dollar design–build contracts will often have an LoL clause that creates a ceiling on the design–builder's potential liability. Several reported decisions address the enforceability of these type of LoL clauses. The question generally starts with a determination of whether applicable state law permits the use of such a clause as a matter of public policy. Those states which find such clauses unenforceable on public policy grounds base their decisions on so-called "anti-indemnity" statutes, which prevent parties from being indemnified for damages arising out of their own negligence.

A well-recognized example is *City of Dillingham v. CH2M Hill Northwest, Inc.,*[361] where a city sued its engineer for damages arising from a DSC claim raised by the general contractor. The engineer's contract contained an LoL that limited liability "for the engineer's sole negligent acts, errors, or omissions" to $50,000. The city asserted that this provision was nullified by an Alaska statute that provided that construction contracts seeking to indemnify a party for liability resulting from the party's sole negligence or willful misconduct are void and unenforceable. The court agreed, finding that enforcement of the LoL clause would be contrary to the legislature's intent in crafting the anti-indemnity statute.

A different result was reached in *1800 Ocotillo v. WLB Group, Inc.,*[362] where a real estate developer sued an engineer for preparing a survey that failed to identify an existing right-of-way that had a major impact on the developer's project. The contract's LoL clause limited the liability of the engineer's negligence to its total fee, which in this case amounted to approximately $14,000. The developer argued that the provision was contrary to Arizona's anti-indemnification statute, which prohibited parties from shielding themselves from liability for their sole negligence.

Unlike the Alaska court in *City of Dillingham*, the Arizona appellate court found this argument unpersuasive. It concluded that provisions where a party sought to be "indemnified" for its sole negligence were different from those where a party sought to "limit" its total liability to the amount of its fees. The court found that LoL provisions do not exonerate the offending party from liability—they merely cap the amount of liability. It examined the legislative history of the Arizona indemnity statute and found no evidence that the legislature intended to prohibit LoL provisions in professional services contracts. The court also found it significant that LoL provisions had been accepted by parties and courts in commercial contracts outside of the construction industry. As such, the court observed that absent an ascertainable public policy to the contrary, parties in Arizona are free to contract as they wish.

[357] *Id. at 50.*

[358] *Id.*

[359] C.A. No. 076-08-084 JOH, 2013 Del. Super. LEXIS 34 (2013).

[360] *Id.* at 5.

[361] 873 P.2d 1271 (Alaska 1994).

[362] 217 Ariz. 465, 176 P.3d 33 (2008).

If the LoL clause passes the public policy test, courts will generally examine the clause and determine whether it is reasonable, specific, and the result of an arms-length negotiation. *W. William Graham, Inc. v. The City of Cave City*[363] illustrates the strict interpretation that most courts exercise in analyzing LoL clauses. It was based on a breach-of-contract action brought against the designer of a federally funded wastewater treatment plant. The engineer design professional failed to meet the contractually established deadline for submitting plans and specifications to the government, resulting in a project funding reduction of approximately $339,000. The engineer's contract contained the following LoL clause:

> [t]he OWNER agrees to limit the ENGINEER's liability to the OWNER and to all Construction Contractors and Subcontractors on the Project, due to the ENGINEER'S professional negligent acts, errors or omissions, such that the total aggregate liability of the ENGINEER to those named shall not exceed $50,000 or the ENGINEER'S total fee for services rendered on the project, whichever is greater.[364]

Relying on this clause, the engineer argued that its fee, approximately $99,000, was the limit of its liability. While the court did not dispute the validity of the LoL clause, it refused to apply the clause to limit the damages for breach of contract. The court pointed out that the clause cited only damages arising out of "professional negligent acts, errors, or omissions,"[365] with no mention being made of liability for breach of contract. The court reasoned that because the parties had the opportunity to negotiate a clause that would limit damages for breach of contract, but did not clearly do so, the LoL was not applicable.

A handful of cases have addressed LoL enforceability under design–build projects, with most of them being in the process or power sector. One example is *Union Oil Company of California v. John Brown E & C,*[366] which involved a dispute on an Illinois polymer plant that was developed on a cost-reimbursable basis. The contract limited the design–builder's total fee to $415,000, and further provided that:

> [JBI's] maximum aggregate liability to Unocal…shall not exceed the proceeds of the applicable insurance coverages plus eighty percent (80%) of the aggregate fee paid to [JBI]…The limitations on [JBI's] liability as specified above, shall apply whether such liability arises at contract, tort (including negligence or strict liability), or otherwise. The above notwithstanding, said limitations on liability shall not apply to all or any portion of such liability which arises out of the gross negligence, fraud, or willful misconduct of [JBI].[367]

When project completion was delayed by 8 months, the owner claimed $8 million against the design–builder, arguing that the delay was caused by its failures.

In an effort to resolve the dispute, the design–builder offered the owner $332,000 (80 percent of its fee), which it asserted was the maximum amount for which it could be found liable. The owner refused the offer, filed suit, and raised a number of arguments to overcome the effect of the clause. All were unsuccessful, and the design–builder prevailed on its interpretation of the LoL clause. The court gave brief attention to the owner's argument that the LoL clause was unconscionable. It found nothing to indicate that the owner did not voluntarily acquiesce to the clause, noted that the owner was "a giant and sophisticated company," and found no evidence that it had been at a bargaining disadvantage with the design–builder.[368]

As noted in Section III, many design–build contracts contain a clause that waives consequential damages between the parties. However, if there is no such clause, design–build's single point of responsibility feature can be used to impose liability on the design–builder for consequential damages. Numerous cases have considered the enforceability of clauses waiving the rights of parties to seek consequential damages, often in the context of how such clauses integrate with other contract provisions.

Consider *Action Industries, Inc. v. United States Fidelity & Guaranty Co.*[369] Action Industries, Inc. (Action), and Engineered Handling Systems, Inc. (EHS), entered into a contract whereby EHS was to design, build, and install a conveyor system for Action's furniture manufacturing and distribution facility in Mississippi. The contract specified that the conveyor would accommodate a production rate of 11 units per minute. The finished conveyor ultimately only achieved 47 percent of this specified rate, causing Action to incur substantial labor and maintenance costs.

Action filed an arbitration demand alleging that EHS was liable for negligent design and for breaches of express and implied warranties. When the arbitration panel awarded Action more than $1 million, Action quickly filed a lawsuit in Mississippi state court to confirm the arbitration award. A few days later, EHS sued Action in a Tennessee state court to vacate the arbitration award. Both lawsuits were eventually removed to federal court. The Mississippi federal court confirmed the arbitration award, and

[363] 289 Ark. 105, 709 S.W.2d 94 (1986).

[364] *Id.* at 106, 709 S.W.2d at 95.

[365] *Id.*

[366] Case No. 94 C 4424, 1995 U.S. Dist. Lexis 13173 (N.D. Ill. 1995).

[367] *Id.* at 1.

[368] This result is consistent with other cases. *See, e.g.*, Valero Energy Corp. v. M.W. Kellogg Const. Co., 866 S.W.2d 252 (Tex. Court of Appeals 1993).

[369] 358 F.3d 337 (5th Cir. 2004).

EHS appealed to the Fifth Circuit Court of Appeals, arguing, among other things, that the arbitrators exceeded their authority by awarding consequential damages, since the warranty clause in the contract waived consequential damages.

The Fifth Circuit rejected this argument, concluding that EHS was reading the limitation of consequential damages far too narrowly:

> The warranty provision merely provided that "in no event shall [EHS] be liable for any compensatory or consequential damage in connection with the installation, use or failure of the equipment." The consequential damages award did not derive from the installation, use or failure of the conveyor, but rather from its defective design. The warranty clause is notably silent whether such damages are prohibited.[370]

The Fifth Circuit agreed with the district court that the conveyor's failure to accommodate the required production rate could be attributed to faulty design, and that the arbitrators had the ability to award damages on this basis. The court also noted that, at most, "the warranty provision creates an ambiguity as to whether the panel may award consequential damages for design defects."[371] EHS drafted the contract, and ambiguous contract language is to be construed against the party who drafted the language. As noted by the court, "[i]f EHS had actually intended to prohibit all consequential damages, it should have simply drafted a blanket prohibition of such damages. Instead, EHS drafted a warranty provision which prohibited only certain types of consequential damages."[372] As a result, the award against EHS was confirmed.

Another design–build case addressing this subject is *Black & Veatch Construction, Inc. v. JH Kelly, LLC,*[373] which involved the failure of a combustion turbine on a power plant. The design–builder paid the owner $2 million for the delay associated with the outages caused by the failure, and then sought indemnification from the turbine erector subcontractor for those damages. The subcontractor acknowledged that it had an indemnification obligation, but argued that the indemnity only covered "physical damage to third party property" and not economic delay damages. It supported its argument, in part, with the subcontract's waiver of consequential damages clause, which precluded recovery of delay-related damages by either party.

The design–builder agreed that, as between the design–builder and the subcontractor, delay damages were "consequential damages" and not recoverable. However, delay damages paid by the design–builder to the owner were "actual" damages, as they resulted directly from the failure of the subcontractor to perform its contractual obligations. The court rejected this argument, finding that it was not reasonable for the design–builder to "re-characterize" delay damages, which were clearly considered "consequential damages" rather than "actual damages" in all of the project's contracts.

The court ultimately rejected the subcontractor's position by looking at the consequential damages clause itself. This clause stated that the waiver did not apply to "damages of any third party for which Subcontractor has an indemnification obligation under this Subcontract." The subcontract's indemnity obligation covered all "claims…and all liability costs, expenses and judgments"[374] brought by the owner against the design–builder due to the subcontractor's negligence.

VII. STATE LAWS AFFECTING DESIGN AND CONSTRUCTION LIABILITY

A variety of state laws specifically affect liability on construction-related contracts. This section will focus on four major topics that can impact design–build liability:

- Indemnification.
- Statutes of limitation and repose.
- Certificates of merit laws.
- Sovereign immunity.

Readers should note that there are many other legal principles that affect liability, such as contractor, designer, and corporate licensing requirements. These can be particularly challenging on large design–build projects, where joint ventures or special purpose corporations enter into the design–build contract. Although it is beyond the scope of this digest to discuss these principles, readers should consult with counsel familiar with the specific requirements in the locations where they work.

A. Indemnification

As discussed in Section III, indemnification clauses are among the most important terms in any contract—design–build or otherwise. Indemnity is generally the agreement by one party to pay for the loss of another. The examples included in Section III demonstrate that the scope of an indemnification clause can vary widely, depending on what the marketplace will accept. Regardless of what the marketplace will accept, however, the clause will also have to be enforceable under

[370] *Id.* at 343.

[371] *Id.*

[372] *Id.*

[373] Case No. 09-1163-KI, 2011 U.S. Dist. LEXIS 48379 (D. Or. 2011).

[374] *Id.* at 14.

applicable state law. Enforceability is the subject of this section.[375]

Indemnification provisions generally fall into one of three categories—broad form, intermediate form, or limited form. Characterized by the indemnity trigger, the forms are described in general as follows:

- *Broad Form.* The indemnitor agrees to indemnify and hold harmless the indemnitee for all liability, regardless of fault. Under this clause, the trigger under a design–build contract might be for the design–builder to indemnify and hold the owner harmless for losses: 1) arising out of or resulting from the performance of the work, even if it is caused in part or in whole by the indemnitee. In this case, the design–builder did not have to do anything wrong to be responsible. This could be used, for example, if a property owner along the right-of-way of a highway project sued the government agency for damages to its business from the project, and the design–builder did nothing wrong, since its only action was to "perform work in accordance with the contract."
- *Intermediate Form.* The indemnitor agrees to indemnify and hold harmless the indemnitee for liability, as long as the indemnitor was partially responsible for the loss. Under this clause, the trigger under a design–build contract might be expressed as the design–builder indemnifying and holding the owner harmless for losses caused in whole or in part by the wrongful or negligent acts or omissions of the indemnitor. Under an intermediate form of indemnity, the design–builder may only be 1 percent negligent, but would have full responsibility for all losses incurred by the owner.
- *Limited Form.* The indemnitor agrees to indemnify and hold harmless the indemnitee for liability, but only proportional to the wrongdoing of the indemnitor. This is often expressed by language such as: 1) to the extent caused by the wrongful or negligent acts or omissions of the indemnitor; or 2) to the extent caused by the wrongful or negligent acts or omissions of indemnitor under a comparative basis of fault. Therefore, if the design–builder were 20 percent to blame and the owner 80 percent, then they would each bear responsibility for the loss in those proportions.

As courts began enforcing broad and intermediate forms of indemnity, many state legislatures responded to industry pressure and enacted anti-indemnification statutes. These statutes vary among the states, ranging from flatly prohibiting intermediate and broad form indemnification to permitting them, but only if there is a monetary limitation on the indemnification obligation. The public policy reasons behind the statutes are largely based on the notion that it is inappropriate to allow someone who commits a wrong to shift responsibility for the consequences of that wrong.

Appendix B lists anti-indemnity statutes in various states and provides information regarding the statutory limitations. For example, in Virginia, a contract provision that requires a contractor to indemnify another party as to the other party's sole negligence (i.e., a broad form of indemnity) is not enforceable.[376] On the other hand, under that statute, if the contractor also was negligent (that is, was partially responsible for the loss), then the indemnity provision could be enforced.

In a large number of other states, any indemnity for any negligence of the indemnified party in this context would be unenforceable with respect to government contracts. The Arizona anti-indemnity laws provide a good example.[377]

An unusual variation can be found in California statutes, which introduce the concept of "active negligence" into the mix, providing as follows:

> Except as provided in Sections 2782.1, 2782.2, and 2782.5, provisions, clauses, covenants, or agreements contained in, collateral to, or affecting any construction contract with a public agency entered into on or after January 1, 2013, that purport to impose on any contractor, subcontractor, or supplier of goods or services, or relieve the public agency from, liability for the active negligence of the public agency are void and unenforceable.[378]

Under this statute, the indemnity may extend to losses caused in whole or in part by passive negligence of the contracting agency, but not to losses caused by its active negligence. The statute allows contracts to include an indemnity clause requiring the contractor to indemnify the contracting agency for any losses that are not attributable to "active negligence" of the contracting agency.[379]

Note that anti-indemnity statutes are normally worded to apply to a contractor, and therefore are likely to apply to a design–build contractor, thus

[375] This section discusses contractual indemnity. Other indemnity doctrines vary largely by statutes and the case law as developed in each state. Such doctrines might bear names such as "implied indemnity" or "equitable indemnity." Although indemnity usually refers to one party completely covering another party's losses, related concepts such as "contribution" provide for sharing of liability among parties.

[376] VA. CODE § 11-4.1.

[377] *See* ARIZ. REV. STAT. §§ 34-226 and 41-2586.

[378] CAL. CIV. CODE § 2782(b)(2).

[379] Sections 2782.1, 2782.2, and 2782.5 of the California Civil Code include exceptions from this rule relating to indemnities of property owners in connection with rights of entry, indemnities in favor of inspectors, and contractual agreements allocating liability for design defects as between the parties to a construction contract.

potentially sweeping liability for the design into the same provision. While not as common, anti-indemnity statutes might specifically protect a design professional rather than a contractor.[380]

As demonstrated by the examples in Section III, the duty to defend is often specifically included in a contractual indemnification provision. This duty requires the indemnitor to defend the indemnitee if a third party sues the indemnitee. Anti-indemnity statutes might interfere with this, as some statutes explicitly identify the duty to defend as the subject of the anti-indemnity law.[381] Other statutes may not specifically refer to the duty to defend issue, and therefore might be ambiguous. In such circumstances, as the duty to defend is deemed broader than the duty to indemnify, the anti-indemnity provision might not apply to a duty to defend.[382]

Note that for many state and local governments, the government's attorney, such as the attorney general or city attorney, is charged with the duty of representing the government in lawsuits. This can create a conflict with the duty to defend in situations where the government is claiming it is being sued on account of a problem created by the design–builder. Normally if an indemnitor accepts the tender of defense of a lawsuit, the indemnitor chooses counsel. When dealing with the indemnity language at the contract drafting stage, the parties need to determine if the duty to defend could operate in the usual fashion, or whether the government's usual attorney would have the exclusive right to represent the government.

Literally hundreds of cases discuss the enforceability of indemnity clauses on construction projects, including many on design–build projects. Although the issues considered by courts are diverse, many cases examine the language of the indemnity clause to determine if its scope covers the claims that the would-be indemnitee alleges should be covered. As an example, consider *Mead Corp. v. ABB Power Generation, Inc.,*[383] which involved, among other things, indemnification claims brought by the purchaser of a gas turbine and the turbine manufacturer to recover for the costs incurred when the turbine failed.

Mead Corporation (Mead) and the predecessor to ABB Power Generation, Inc. (ABB), entered into contracts for ABB to supply and install a turbine at Mead's Chillicothe, Ohio, plant. The contract required ABB to "indemnify and hold [Mead]… harmless from and against all expenses, costs, charges, damages, claims, suits, losses or liabilities (including attorneys' fees) of every kind whatsoever to the extent caused by the negligence of [ABB]."[384]

Three months after ABB completed work on the turbine, a fan-blade failure occurred and caused a shutdown of the turbine. ABB undertook repairs pursuant to the contractual warranty, but the turbine continued to have problems. The lawsuit between the parties involved, among other things, whether the indemnity clause covered all damages arising from ABB's negligence, including costs incurred directly by Mead.

ABB argued that the indemnity clause was intended to apply only to third-party claims for personal injury or property damage. The Sixth Circuit noted that under Ohio law an indemnity provision can apply to both third-party reimbursement situations and to direct losses suffered by the contracting parties themselves. It believed that the indemnity clause in the contract, when read alone, supported Mead's right to recover its damages. When the indemnity clause was read with other provisions in the contract (particularly the warranty clause, which purported to establish an exclusive remedy for performance failures), however, the court supported ABB's interpretation that the indemnity only applied to third-party damages:

> Because the contract as a whole can be reasonably interpreted to support either Mead's or ABB Power's position regarding the scope of the indemnity clause, we conclude that the contract is ambiguous as to this issue. Under Ohio law, "[a]mbiguous contractual language will be construed against the drafter of the contract."[385]

Since Mead was the primary drafter of the contract, it suffered the consequences of the ambiguity.

B. Statutes of Limitations and Repose

Statutes of limitations specify time periods for bringing a lawsuit on a particular type of claim. For example, if the claim is purely a breach of contract, then the applicable statute of limitations would be that specified for a breach of contract. But if the claim is for negligence, then the limitations period would be for negligence, which might be different than the period for breach of contract. These statutes vary from state to state, with most states setting the statute for breach of written contracts in the range of 3 to 6 years.[386] As an illustration, in

[380] For example, Pennsylvania has enacted such a law for design professionals. 68 PA. CONS. STAT. § 491.

[381] *See, e.g.,* CAL. CIV. CODE § 2782.05.

[382] *See, e.g.,* Herson v. New Boston Garden Corp., 40 Mass. App. Ct. 779, 786–87, 667 N.E.2d 907, 914 (1996).

[383] 319 F.3d 790 (6th Cir. 2003).

[384] *Id.* at 793.

[385] *Id.* at 798.

[386] Although this section presents tables of statutes state-by-state on other issues, because the potential limitations periods are so varied and depend so much on the specific nature of the claim, reducing them to a 50-state table is not possible to do in a meaningful way, and could potentially be misleading by focusing attention and research too narrowly.

New York, the limitations period for a claim of breach of written contract is 6 years, while that for negligence is 3 years.[387]

The policy behind statutes of limitation is premised on two basic factors. First, they serve to encourage claimants to act diligently and to refrain from intentionally delaying the filing of suit after notice of a claim has been received. Second, they serve to give defendants peace of mind that at some point they will not be targeted by a lawsuit, because, over time, evidence is lost, memories fade, and witnesses disappear.[388]

Statutes of limitations generally are the same for design–build contract and negligence actions as they are for other types of contract and negligence actions against contractors and designers. As a consequence, in analyzing the applicable statute of limitations for a design–build contract, focus must be placed on the nature of the work leading to the liability. For example, if it is a construction defect, then the claim might fall into one category, but if it is a design defect, then it might be categorized differently. The possibility exists that a design–build contract might be viewed as an agreement to provide a product, with any breach subject to a 6-year statute of limitations, but with the design–builder's recourse against the designer subject to a shorter statute.

While application of a statute of limitations might seem mechanical, it is not. One of the key points for the parties to have clarified is the date when the statute starts to run—i.e., its "accrual" date. The determination of this date is dependent on state law. Some states, such as Virginia, have a traditional view of accrual for breach-of-contract claims. They hold that the statute of limitations for these claims starts running on the date that the injury occurred, regardless of whether the claimant knew that it was injured. This means, in effect, that if the breach of contract was caused by a negligent design, then the date that the design was completed was the commencement date for Virginia's 5-year statute of limitations for breach of contract.

Other states use a "discovery" rule for their statute of limitations. As the name suggests, in such states the "accrual" date starts on the date the claimant discovered, or should have reasonably discovered, that there was an injury. In the case of a breach of contract for a design defect, this would be the date the defect became apparent to the claimant.

Because the discovery of an injury or a deficiency could occur at any time, a designer or contractor could theoretically face liability exposure forever. To avoid this result, the construction industry lobbied legislatures for statutes that would create an absolute end date to their liability. This was particularly important to address the threat of personal injury lawsuits, where third parties could sue designers and contractors for design or construction defects. State legislatures responded by adopting laws known as "statutes of repose." These statutes set an outside limit on when an action can be brought even if the statute of limitations has not expired. Generally, the "clock starts ticking" for statutes of repose after the completion of services or the substantial completion of construction. As shown by the summary in Appendix C, most states have adopted statutes of repose in the 6 to 10 year range.

Myriad cases have addressed the application of statutes of limitations and repose, including on design–build projects. One example is *Richmond Metropolitan Authority v. McDevitt Street Bovis, Inc.,*[389] which involved a design–build contract for a stadium. The design criteria included 32 precast and post-tensioned concrete structural members ("bents") for the cantilevered roof and upper concourse seating. Each bent was to have hollow conduits containing steel tendons or bars. After insertion and tensioning of the steel tendons or bars, the design criteria required that grout be injected into each conduit, which would strengthen the bents, prevent corrosion of the steel tendons or bars, and enhance the structural integrity of the stadium.

Approximately 10 years after the stadium's completion, the owner realized that many of the conduits contained no (or insufficient) grout and that, as a result, the steel tendons or bars had corroded. The owner also learned that three conduits contained no steel tendons or bars. It filed suit against the design–builder for breach of contract and fraud, largely based on the design–builder's misrepresentations and physical concealment of its nonconformance with the design criteria.

The design–builder successfully convinced the trial court that Virginia's 5-year statute of limitations on breach of contract and 5-year statute of repose on any construction project barred the entire lawsuit. The Virginia Supreme Court affirmed the trial court's decision. The court rejected the notion that the owner could sue the design–builder for fraud (a count that would not have been barred by the statute of limitations or repose). The court found that each of the design–builder's alleged misrepresentations related

[387] Compare N.Y. C.P.L.R. §§ 213(2) and 214(4)–(6).

[388] *See generally* Tyler T. Ochoa, *The Puzzling Purposes of Statutes of Limitation,* Santa Clara Law Digital Commons, 28 PAC. L. J. 453, 1996–1997, *available at* http://digitalcommons.law.scu.edu/cgi/viewcontent.cgi?article=1107&context=facpubs (last visited June 29, 2015).

[389] 256 Va. 553, 507 S.E.2d 344 (1998).

to a duty or an obligation specifically required by the design–build contract:

> It contracted to inject grout into the conduits, to fill the grout tubes before cutting them off and sealing them, to submit accurate applications for payments, and to present an accurate certificate of substantial completion and "as-built" drawings. McDevitt may have breached each one of these contractual duties, but its actions do not give rise to a cause of action for actual fraud, albeit McDevitt misrepresented its compliance with the design criteria.[390]

Based on this, the court concluded that the design–builder's motion to dismiss was proper, and that the owner did not have a remedy against the design–builder: "In ruling as we do today, we safeguard against turning every breach of contract into an actionable claim for fraud. The appropriate remedy in this case is a cause of action for breach of contract, which unfortunately is time-barred."[391]

Another case, *State of New Jersey v. Perini Corporation,*[392] involved the design and construction of a number of correctional facilities and the failure of the related centralized underground hot water distribution system. The State claimed that the leaks and other defects in the pipes and isolation valves were so serious and widespread that the entire system had to be replaced, requiring a relocation of the inmate population. The State filed suit against the design–builder and its subcontractors. The filing occurred more than 10 years after most of the prison facilities had been put into use, but it was 3 days short of 10 years from the date when the State issued the last of the project's certificates of substantial completion.

The design–builder and its design and construction subcontractors argued that New Jersey's 10-year statute of repose had already expired. Their work on virtually all of the prison buildings, as well as the water distribution system, had been performed more than 10 years before the date of the lawsuit filing. After considering New Jersey precedent, the court concluded that the "trigger date" for starting the statute was not individual components of work, but the "completion of the contractor's entire work on the improvement." It likened the hot water system to other elements of the project, such as steel, foundations, site work, and windows, and found it inappropriate to trigger the statute of repose based on the date a specific component was completed, when the contractor and designer had continuing involvement on the project after that date.

The court noted that its view was different for contractors whose work had been completed and who had no further duties on the project. Those entities would be able to trigger the statute of repose from the date their work was completed. Because the design–builder and the design and trade subcontractors involved in constructing the hot water system each had continuing project duties, the court found that the 10-year statute of repose was not a proper defense.

Given the potential uncertainty that can arise from having prolonged liability under the "discovery" rule, some contracts attempt to define the accrual date for starting the running of the applicable statutes of limitations and repose. In fact, the AIA standard form for general conditions has had such a provision for many years. The 1997 edition of AIA Document A201 stated that, as between owners and contractors:

> As to acts or failures to act occurring prior to the relevant date of substantial completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Substantial Completion.[393]

This had the effect of eliminating the "discovery" rule and establishing a "hard" date for when the statutes of limitations and repose would start. Section 13.7 of the 2007 Edition of AIA Document A201 modified the preceding clause, stating that:

> The Owner and the Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and the Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

As a consequence, in those states that follow the "discovery rule," the owner would retain the benefit of rule, but the contractor would have the benefit of knowing that its exposure to liability was limited to 10 years after the date of substantial completion.

The question that has been raised in some courts is whether it is permissible to have the parties circumvent a state's laws on statutes of limitations and repose and create their own periods in a contract. The cases that have considered this question to date have concluded that the parties can so agree.

One of the leading cases in this area is *Harbor Court Associates v. Leo A. Daly Co.*[394] The developer of a condominium tower, office building, hotel, health club, and parking garage sued the project's architect for tort and breach-of-contract claims, alleging defective design work by the architect. The court,

[390] *Id.* at 559, 507 S.E.2d at 347.

[391] *Id.* at 560, 507 S.E.2d at 348.

[392] 425 N.J. Super. 62, 39 A.3d 918 (2012).

[393] AIA § 13.7.1, Commencement of Statutory Limitation Period.

[394] 179 F.3d 147 (4th Cir. 1999).

applying Maryland law, enforced a contractual provision that was similar to the AIA Document A201 (1997) clause cited above, which specified that causes of action started to run upon substantial completion. The court observed that Maryland had adopted the "discovery" rule, but that there was nothing to suggest that the discovery rule could not be waived by contract.

Noting that Maryland courts had established a "commitment to protecting individuals' efforts to structure their own affairs through contract,"[395] the court was influenced by the fact that the parties were "sophisticated business actors who sought, by contract, to allocate business risks in advance."[396] The court found that, "rather than rely on the 'discovery rule,' which prolongs the parties' uncertainty whether or if a cause of action will lie, the parties to this contract sought to limit that period of uncertainty by mutual agreement to a different accrual date."[397]

A recent California case, *Brisbane Lodging, LP v. Webcor Builders, Inc.,*[398] relied on the *Harbor Court* decision in enforcing the 1997 AIA Document A201 clause. The court cited to several other state court decisions that had, like *Harbor Court*, similarly allowed the delayed discovery rule to be waived or modified by contract:

> Although we are not bound to follow these out-of-state authorities, they reflect a broad consensus as to the proper interpretation of the AIA's standard agreement's accrual provision under circumstances identical to the circumstances present in this case—that is, where the provision was freely entered into by parties represented by legal counsel engaged in a sophisticated commercial construction project. ….
>
> By tying the running of the applicable statute of limitations to a date certain, the parties here negotiated to avoid the uncertainty surrounding the discovery rule for the security of knowing the date beyond which they would no longer be exposed to potential liability. Like the out-of-state courts that have considered this provision, we conclude that sophisticated parties should be allowed to strike their own bargains and knowingly and voluntarily contract in a manner in which certain risks are eliminated and, concomitantly, rights are relinquished.[399]

Note that the court rejected the owner's argument that the contract clause was void as against public policy because it precluded the owner from relying on the discovery rule in pursuing latent defect claims against the contractor, as the defects did not manifest themselves until years after the construction project was complete. The court struggled to find a public policy reason for the discovery rule, particularly when balanced against "the broader, longstanding established public policy in California which respects and promotes the freedom of private parties to contract."[400]

C. Certificates of Merit

Professionals, such as architects, engineers, and doctors, have increasingly faced liability exposure for alleged negligence or malpractice in performing their duties. Many claims have no material basis or justification, but nevertheless require the professionals to defend themselves. To combat that, professional organizations have successfully lobbied for certificate of merit laws in a few states.[401] Under these statutes, before a claimant can bring certain claims of negligence, it must first obtain the opinion of a professional in a relevant field that there is a meritorious claim, or have the potential claim reviewed in some other way. An example is the New Jersey Affidavit of Merit Statute, which reads as follows:

> In any action for damages for personal injuries, wrongful death or property damage resulting from an alleged act of malpractice or negligence by a licensed person in his profession or occupation, the plaintiff shall, within 60 days following the date of filing of the answer to the complaint by the defendant, provide each defendant with an affidavit of an appropriate licensed person that there exists a reasonable probability that the care, skill or knowledge exercised or exhibited in the treatment, practice or work that is the subject of the complaint, fell outside acceptable professional or occupational standards or treatment practices. …[T]he person executing the affidavit shall be licensed in this or any other state; have particular expertise in the general area or specialty involved in the action, as evidenced by board certification or by devotion of the person's practice substantially to the general area or specialty involved in the action for a period of at least five years. The person shall have no financial interest in the outcome of the case under review, but this prohibition shall not exclude the person from being an expert witness in the case.[402]

In a design–build context, these statutes may create a challenge. A certificate of merit would likely be required if the claim relates to liability for defective design, but might not be required if it pertains to the construction side of the work. Thus, a potential claimant must analyze the particular certificate of merit suit in the context of its claim to decide if it applies.

D. Derivative Immunity

Applicability of sovereign immunity as a defense to claims brought against the government is

[395] *Id.* at 150.

[396] *Id.* at 151.

[397] *Id.* at 150–51.

[398] 216 Cal. App. 4th 1249, 157 Cal. Rptr. 3d 467 (2013).

[399] *Id.* at 1260–61, 157 Cal. Rptr. 3d 474.

[400] *Id.* at 1262, 157 Cal. Rptr. 3d 476.

[401] *See* App. D for a state-by-state table of certificate of merit statutes.

[402] N.J. STAT. ANN. 2A:53A-27.

beyond the scope of this digest and has been addressed in other publications.[403] The concept of sovereign immunity may be relevant, however, in determining whether public agencies and design–builders have liability to third parties for defects in the project design. Two specific concepts relating to sovereign immunity are discussed in this section: 1) the doctrine of "derivative immunity" and 2) legal requirements that affect the design review process.

1. Derivative Immunity

In some states, the doctrine of "derivative immunity" might allow a design–builder to assert that, as the government's agent, it is entitled to the same immunity that applies to the government in suits from third persons. The U.S. Supreme Court recently discussed the doctrine's history and application, although not in the design or construction context.[404] The law on the applicability to private contractors is mixed, and would need to be examined in the particular state. As an example, a Texas statute grants immunity to certain private contractors under limited circumstances, as follows:

> (c) An independent contractor of a transportation entity [created under specified statutes] performing a function of the entity or an authority is liable for damages only to the extent that the entity or authority would be liable if the entity or authority itself were performing the function.[405]

Even where the doctrine of derivative immunity applies to a design–builder, it would retain the risk of any claims that could be made against the government. As a general matter, most states allow suits against themselves for tort claims under certain conditions. See Appendix E for a chart referencing the sovereign immunity statutes in various states.

2. Relationship Between Sovereign Immunity and Design Review Process

The law in California provides an interesting example of the need to consider sovereign immunity in the context of the design review process for public agency design–build contracts. California's Government Claims Act provides a general waiver of sovereign immunity for tort claims based on dangerous conditions of public property.[406] The Act carves out "design liability"—which means that the public agency retains its sovereign immunity—if the "plan or design" has been approved in advance of the construction or improvement by the legislative body of the public entity or some other body or employee exercising discretionary authority to give such approval, or such plan or design is prepared in conformity with standards previously so approved, if there is any evidence that a reasonable public employee could have adopted the plan or design or standards therefor, or a reasonable legislative body or other body or public employee could have approved the plan or design or standards therefor.[407] This is an uncommon concept and means that, in California, public agencies are likely to want to review and approve "released for construction" design documents.

VIII. CASE STUDIES

This section consists of three sets of case studies illustrating different facets of the design–build design and acquisition process. The first case study reviews the arbitration award arising out of a dispute between the design–builder and designer on SCDOT's Cooper River Bridge project. Next, a set of case studies derived from experiences shared by professional liability insurance (PLI) carriers is examined. The final set of case studies discusses transportation agencies' creative procurement and contracting approaches that had a positive impact on the design and acquisition process.

A. Cooper River Bridge Replacement Project

As discussed in Section VI, the trend to use alternative dispute resolution (e.g., arbitration, dispute review boards, and mediation) has resulted in many design–build disputes being resolved without published decisions. Although this trend provides the benefit of faster and more cost-effective resolution, the downside is that the industry has a smaller universe of reported court decisions from which to derive insight into behavior and legal theories that

[403] For a detailed discussion regarding issues relating to transportation agency liability for defects in transportation facilities, *see* TORT LIABILITY OF HIGHWAY AGENCIES, SELECTED STUDIES IN TRANSPORTATION LAW (Vol. 4, Nat'l Cooperative Highway Research Program, Transportation Research Board, 2003).

[404] Filarsky v. Delia, 132 S. Ct. 1657, 182 L. Ed. 2d 662 (2012).

[405] TEX. TRANSP. CODE § 452.0561(c).

[406] CAL. GOV'T CODE § 830. The statute goes on to say that

> the immunity provided by this section shall continue for a reasonable period of time sufficient to permit the public entity to obtain funds for and carry out remedial work necessary to allow such public property to be in conformity with a plan or design approved by the legislative body of the public entity or other body or employee, or with a plan or design in conformity with a standard previously approved by such legislative body or other body or employee.

[407] CAL. GOV'T CODE § 830.6.

influence dispute outcomes. This section will review one of these arbitral awards, *Parsons Brinckerhoff Quade & Douglas, Inc. v. Palmetto Bridge Constructors, et al.* (Award),[408] which involved major claims between the design–builder and its lead engineer on the Cooper River Bridge Replacement Project for SCDOT.[409] The design–builder alleged that its lead designer failed to perform its pre-proposal design work adequately.[410]

1. The Project, Procurement, and Parties

The project was comprised of the design and construction of a replacement of two truss bridges over the Cooper River—the Grace Memorial and Silas Pearman Bridges—as part of U.S. Route 17 between Charleston and Mount Pleasant, South Carolina. Associated approach structures, ramps, and interchanges at each end of the bridge were also included.

SCDOT initially commenced the bridge replacement project using the traditional design–bid–build protocol. It converted, however, to a two-phase design–build approach to address the limitations of state funding. Under the first phase, SCDOT sought a conceptual proposal that would allow it to select two or more proposers who would be eligible to submit full technical and price proposals under the second phase of the procurement. The first-phase RFP was issued on July 14, 2000, and allowed a total of 9 weeks for submission of proposals. This RFP also required that the bridge structure be constructed within a specified budget amount.[411]

The second-phase RFP was issued on February 23, 2001, and ultimately required proposers to submit their technical and price proposals in 11½ weeks. Proposers were required to submit a proposal for design and construction of dual four-lane parallel structures, including the cable-stayed main spans, approach spans, and interchanges at each end, and a separate proposal for "additional components," including certain ramps and separated pedestrian and bicycle facilities on the structures. The proposals were to include renderings of the bridge, representative conceptual drawings of the superstructures and substructures of the bridge and approaches, types of materials, and specific bid sheets and other forms.

SCDOT allowed proposers, at their option, to submit an alternative proposal, including a single eight-lane structure in addition to the dual four-lane parallel structures, with the same requirements as previously stated. Proposers were required to submit a separate proposal to design and construct an additional amount of bridge width to accommodate light rail or other mass transit. Proposals were to identify scope based on the assumption that: 1) sufficient funding would be available in time for the full project to be constructed on schedule under an unlimited notice to proceed; and 2) sufficient funding would not be available, and only a specified portion of the full project would initially be constructed under a limited notice to proceed.

Palmetto Bridge Constructors (PBC), a joint venture of Tidewater Skanska, Inc., of Norfolk, Virginia, and Flatiron Constructors, Inc., of Longmont, Colorado, was the winning proposer, with the low price of $531 million. Parsons Brinckerhoff Quade and Douglas, Inc. (PB), was its engineering subcontractor and chief designer. SCDOT awarded the design–build contract to PBC on July 2, 2001, and the project was completed in July 2005.

Readers should note that PBC and PB signed, on August 31, 2000, a Memorandum of Understanding (MOU) regarding the preparation and submission of the first-phase proposal. While working together on the second-phase proposal, they negotiated a Subcontract for Design Services (Design Subcontract), which was not signed until September 10, 2001. This was more than 4 months after the second-phase proposal was submitted and more than 2 months after the execution of the design–build contract. The effective date of the Design Subcontract, however, was made May 11, 2001, which appeared to coincide with the date that PBC submitted its second-phase proposal on May 15, 2001.

As constructed, the project stretches more than 3 mi. The main crossing of the Cooper River between Mt. Pleasant and Drum Island is one of the longest cable-stayed bridges in North America, with a center span of 1,546 ft and a total cable-supported length of 3,296 ft. The bridge's as-constructed width of approximately 140 ft carries eight lanes of traffic and a 12 ft pedestrian and bicycle path. It provides 186 ft of vertical clearance above a 1,000-ft-wide shipping channel in the Cooper River. Most of the

[408] AAA-09, 16-110 Y 00125-05.

[409] It is only recently that arbitration awards have been published and consequently, the ultimate precedential value of arbitration awards will be determined over time, as arbitrators, mediators, and even judges consider them in rendering their advice and decisions.

[410] All of the narrative set forth below is taken directly from the 110-page Award. Each of the three arbitrators is an experienced construction lawyer from the mid-Atlantic region, and the Award reflects the thoughtful approach they used in addressing the design–builder's allegations that its lead designer failed to perform its pre-proposal design work adequately. Readers should read this case study in conjunction with Section VI.F.1, which addresses case law on the same subject raised in the arbitration.

[411] In describing the procurement process, the Award identified a budget number of $362 million. Later in the Award, in discussing the dispute, a budget of $536 million was used.

structures use a composite steel superstructure, including the 3,296-ft cable-stayed main span. The main span and side spans use a composite concrete deck with I-shaped steel girders and floor beams. The two 572½-ft-high diamond-shaped main towers are comprised of hollow rectangular reinforced concrete sections with 2- to 2½-ft-thick walls.

2. Nature of the Dispute

PBC filed an arbitration demand against PB for 44 specific errors and omissions that it contended arose out of PB's work during the pre-proposal period, and that allegedly resulted in increased construction costs and delays for PBC. PBC also identified four claims of error in the final design of the bridge. It sought an award against PB of approximately $65 million, plus other relief, and based its claims on negligence, breach of contract, breach of warranties, negligent misrepresentation, and breach of fiduciary duty. PB denied any liability to PBC and asserted a counterclaim for approximately $3 million, largely for interest on unpaid contract amounts, extra work, and extended general conditions.

With respect to the pre-proposal period claims, PBC essentially contended that PB's proposal design: 1) omitted certain elements required for a suitable project design; 2) contained errors or omissions, and incorrect data, that impacted PBC's cost estimating; and 3) did not comply with applicable project design criteria, though PB certified it as meeting such criteria knowing that the design conflicted with such criteria. PBC argued that it relied on the efficacy of PB's design because, among other things:

- It was significantly detailed, containing framing plans, structural member evaluations, and drawings containing dimensioned and sized members and related material quantity tables, including parametric formulae, and could not be considered as conceptual.
- The design did not indicate any level of uncertainty or draw attention to items that had not been properly detailed, in accordance with the project requirements.
- PB did not communicate to PBC certain unknowns or uncertainties that would later impact final design.
- PB did not include design allowances in its pre-bid design information, despite understanding its obligation to meet the bid quantities in its final design and cost estimates.

PBC particularly focused on the fact that PB had been involved with the project since 1987 and had developed project design criteria in working for SCDOT, as well as authored the EIS for FHWA. As a result, PBC argued that PB knew that certain project requirements—such as seismic, wind, geotechnical, and ship impact issues—were significant and carried a higher order of importance than on an ordinary project. PBC alleged that PB did not examine areas of the design that would have been critical to these areas, including the vertical component of seismic reactions, design of the expansion joints for seismic movement, and site-specific wind loadings.

Some of PBC's largest claims were for aerodynamic and seismic design. PBC argued that PB should have provided a level of design that would allow PBC to bid the project with a wind force resisting system that was complete, constructible, and stable, and which fully satisfied the design criteria. PB's alleged failure to fully investigate aerodynamic stability required significant post-award redesign and cost. PBC additionally claimed that PB did not consider many aspects of seismic design and thus did not fulfill its obligation to provide a preliminary design for a complete seismic resistance system. This resulted in PBC incurring additional costs to rectify details omitted in the pre-proposal engineering.

PB asserted a number of positions to defend its pre-proposal work and the claims against it. It asserted that the validity of pre-proposal engineering judgments must be evaluated based on what was known at the time of the proposal, not on what is known at final design through a "hindsight" analysis. Among other things, it urged the arbitrators to consider, in determining whether PB had met its professional standard of care, that:

- Two years of full engineering design process took place after award, during which extensive investigations, testing, and analysis had to be conducted and reports of those efforts written and reviewed by SCDOT.
- SCDOT formed a Seismic Resource Panel after contract award to review all seismic engineering and design, and that numerous iterations of analysis and design were completed, incorporating the information gathered and comments received.
- During final design, changes were requested by SCDOT, PBC, and fabricators for a variety of reasons, including preferences, ease of fabrication, and convenience of construction, with which PB was obligated to comply but which are at the root of many of PBC's claims in this arbitration. PB contended that such changes after a lump sum proposal was submitted and accepted were common on large construction projects and on design–build projects.

PB argued that the purpose of the engineering services was to support the development of a conceptual proposal, not to develop final construction

documents. Noting the many uncertainties inherent in the engineering design process at such an early stage, PB cited to the fact that the pre-proposal design stage is time-constrained in relation to the project, and that many of the issues PBC complained about (such as seismic, wind, and geotechnical issues), required, by contract, additional studies to be performed after contract award. It also argued that PBC excluded PB from the assessment of design risks and applicable contingencies and from the cost estimating process in general.[412]

The hearing took 39 days, beginning on January 16, 2008, and ending with final arguments on July 15, 2008. The Award provides a methodical analysis of each claim and counterclaim, and the arbitrators ultimately concluded that PB was liable to PBC in the net amount of $1,239,568.25. The Award is instructive on many levels, but particularly in terms of how this panel considered the global arguments of each party and applied them to the facts of each claim. The main arguments are discussed in the sections that follow.

3. General Factors Cited by the Panel Influencing Its Award

Before examining PB defenses, the panel set forth findings of fact on three points that clearly influenced its Award as it examined each of the 44 specific claims:

- Collaboration by the parties during the pre-proposal phases.
- PBC required an economical, conceptual design knowing design uncertainties existed.
- PBC'S unilateral contingency in the face of known design uncertainties.

As to the first issue, the Award cites the importance, on a design-build project, of collaboration between the contractor and designer during the pre-proposal period. The MOU specifically acknowledged that the parties needed to collaborate, and obligated PBC and PB to share information on status, cost, technical considerations, competitive position, and such other information as reasonably may be necessary to develop the best proposal. In fact, this was one of PBC's arguments—PB failed to provide "information reasonably necessary for the preparation of the Joint Venture's cost proposal."

The Award noted that the panel weighed the suitability of each of the parties' respective collaborative efforts. It concluded that PBC did not share certain critical information with PB and overtly excluded its designer from providing input on final estimating, risk evaluation, or contingency setting. It found that "such exclusion lies at the core of this dispute." The panel noted that PBC's rationale for its actions was that PB was a subconsultant and not a joint venturer sharing the financial risk of the fixed-price design–build contract. PBC was further concerned over confidential pricing information being disclosed to competitor bidders. This concern "apparently overrode the MOU's express requirement to share 'competitive position' information, as well as the mutual exclusivity and confidentiality provisions of the MOU."

As to the second point, the panel was heavily influenced by PBC's pre-proposal design directions:

> The PBC direction provided by PBC to the design team was to provide the most economical design, because price in the competition for the design–build contract was a, if not the, most important consideration. …Sensitive to price issues, on separate occasions in the pre-proposal design process, PBC management variously instructed PBC to provide a "bare bones" design and to design solely to SCDOT's design criteria, even when it was known to PBC that the criteria was insufficient.[413]

The panel noted that PB only had 12 days to develop its first-phase design, and that substantial changes took place during the development of the second-phase pricing package.

The panel also believed that PBC was sophisticated enough to know that major elements of the design had to be subject to verification:

> PBC, therefore, was, or by the exercise of reasonable diligence should have been, aware that full and complete load analyses were to be performed only after contract award. Further, because a change in load analysis had a cascading effect on other structural analyses, PBC knew or should have reasonably known that uncertainties in design existed and significant post-award analyses and design was anticipated.[414]

The Award notes that this was evident from a comparison of the level of engineering effort in the compressed pre-proposal period with the effort after contract award. PB expended approximately 10,000 hours in the pre-proposal phase versus approximately 300,000 hours in the post-award phase. It was paid approximately $1 million in the pre-proposal phase as compared to approximately $21 million for post-award design services. The Award stated:

> PBC, therefore, understood the categories of risk inherent in a project of this scope and complexity, as evidenced by the list of risks PBC management created in their final pricing and contingency setting exercise. PBC understood that load testing, geotechnical investigations, scour analysis, ship impact, wind studies, aerodynamic testing, and seismic

[412] In addition to these general points, PB also argued that it had, in fact, satisfied its standard of care for pre-proposal design services for each of the 44 areas that were raised by PBC.

[413] *Id.* at 39.

[414] *Id.* at 40.

> analysis and modeling would all be performed after award. The evidence, in fact, was that PB communicated specific uncertainties regarding wind fairings, hurricane tie-downs, integral connections, and ship impact criteria. PB also advised PBC of uncertainty in shaft capacities in the main span and high level approaches due to the lean design directed by PBC. Moreover, seismic issues were described by PB to PBC as the "biggest unknown."[415]

Finally, as to contingency setting, the panel's Award was clearly influenced by PBC's failure to involve PB in the cost-estimating process. PBC conceded that, but for some limited exceptions, it did not rely on quantities estimated by PB. "PBC did not involve the design team, in any meaningful way, in the estimating process or the establishment of contingency—reserving those functions to itself."[416]

The Award discusses in detail how PBC arrived at its contingency and noted that it was based in part on decisions by upper management to present a competitive, "bare bones" bid. PB was not privy to the contingency before, or at any time during, the project. PB's suggestions on appropriate contingency amounts, which were higher than those PBC ultimately used, were not considered. PB was instructed, however, not to provide contingencies on its quantities, because that would place a "contingency on a cost already increased by PB's contingency."[417]

The Award noted that PBC acknowledged growth in quantities during the course of the project, and suggested that these appeared to be anticipated growth. PBC apparently confirmed that it would not hold PB financially responsible for what PBC identified as design-related quantity and costs increases. This position apparently changed approximately 2 years before the project was completed.

4. Implied Warranty for Sufficiency of Pre-Proposal Design

As discussed in Section VI, case law supports the position that a designer impliedly warrants the sufficiency of its pre-bid design documents. PBC argued that South Carolina law imposed a higher standard of care than the traditional negligence standard and that it is "virtually a strict liability standard," i.e., a standard that requires that the "Pre-Bid Design have no errors or omissions." PB argued that the South Carolina cases all addressed final plans and specifications and not preliminary or pre-bid design information. It therefore argued that there was no implied warranty claim for which it could be liable for the pre-proposal errors and omissions cited by PBC.

The panel agreed with PB, although it did not cite to any cases. The Award cited to the MOU and the Design Subcontract, as well as the testimony of the parties, which made it clear that the parties intended and understood that the information provided prior to the award was for the purpose of bidding to SCDOT and not for construction: "Moreover, there was no doubt that the information provided prior to the award of the Design Build Contract might be subject to refinement and change during the development of the final design."[418] Therefore, the panel found no basis for PBC's claim of breach of implied warranty with respect to pre-bid design information.

5. Express Warranty of Sufficiency of Pre-Proposal Design

As noted in Section VI, designers can, by their contract, expressly warrant that their design documents are free of defects. PBC argued that, contending that elements of the Design Subcontract applied to all pre-bid services. The specific clause at issue stated:

> Designer warrants to Contractor and also to Owner that: (a) all design services performed pursuant to the Contract Documents shall conform to all professional engineering principles generally accepted as standards of the industry in the state where the Project is located; (b) the Project shall be free of design defects, errors and omissions; and (c) the Project's design shall be fit for intended use for its function.[419]

PB responded by arguing that this clause did not apply to pre-bid services, as the Design Subcontract was applicable only to post-award services.

The panel disagreed with PB relative to Paragraph (a) and found that PB expressly warranted all pre-bid design services pursuant to the Design Subcontract. It reached this determination by examining the subcontract's definition of "Contract Documents," which expressly included "all documents having to do with the design and construction of the Project and the bidding process released by Owner."[420] The panel rejected, however, that the warranty set forth under (b) and (c) applied to pre-proposal services, concluding that they only applied to the final RFC drawings.

Based on this ruling, the panel then evaluated each of the claims to determine whether PBC breached the Paragraph (a) warranty. The panel specifically found that an engineer can contract to exercise a standard of care higher than the ordinary negligence standard, and that the Paragraph (a) warranty could be a higher standard of care. It also stated, "the mere fact, however, that the final RFC drawings differed from the design information provided to PBC during the pre-award phase of the contract does not establish that PB violated the

[415] *Id.*

[416] *Id.* at 41.

[417] *Id.*

[418] *Id.* at 44.

[419] *Id.* at 45.

[420] *Id.*

standard of care imposed upon it, under the negligence standard or by contract."[421] Instead, the panel evaluated whether PB had breached this duty by considering expert testimony and factual evidence on each of the individual items. As is evident from the Award, PBC was unable to meet its burden of proving that PB breached this standard on most of its pre-proposal claims.

6. Measure of Damages for Pre-Proposal Design Errors and Omissions

PBC's pre-proposal damages theory was based on the concept that it was entitled to recover, for each claim item, the difference between the price it actually bid for that item of work and the amount it "would have bid" if: 1) the final design elements of the project had been known at the time it was preparing its estimate; or 2) it had been given proper warning that the quantities and costs on the project might increase as significantly as they did.

PB argued that this approach was inherently speculative and, as a result, all of PBC's claims for pre-bid errors should be dismissed because of insufficient proof. Among other things, PB contended that if PB had included in its $531 million proposal to SCDOT all of the costs claimed for PB's errors and omissions, its proposal would have been at least $581 million, well in excess of SCDOT's budget of $536 million. This, according to PB, would have rendered PBC's bid nonresponsive and would have precluded the award of the contract to the joint venture.

Although the panel expressed concerns over the reliability of the costs calculated pursuant to the "would have bid" approach, it nevertheless rejected PB's motion to dismiss—viewing this method as a "conceptually valid approach" for a damages calculation. The panel specifically observed that this calculation method required the panel to exercise "considerable care in assessing the accuracy and reliability of PBC's assertions as to what direct and indirect costs would have been included in its bid."[422] The Award noted that this scrutiny was "especially necessary in view of the fact that these asserted damages were based on claims of additional revenue which would have been received rather than the additional costs of materials and labor actually incurred in completing the Project."[423]

Another defense PB raised for certain claims and backcharges should be denied because, as a matter of contract, the parties agreed not to assert "nickel–dime" claims against each other. Although observing that this issue was discussed as the parties entered into the Design Subcontract, the panel was unwilling to consider this as a proper defense. The Award noted, "It is also clear that when the regrettable deterioration of the relationship between PBC and PB occurred, both parties ignored this part of their commitment in the claims, counterclaims and backcharges which they have presented in this arbitration."[424] Moreover, because there was no evidence of any discussion or agreement as to a dollar threshold for claims considered to be in the "nickel–dime" category, the panel was unwilling to "guess as to what might be considered to be a 'nickel–dime' claim."[425]

7. Post-Award Errors and Omissions

The panel separately evaluated the legal standards for the four post-award errors and omissions allegedly caused by PB's negligence and breach of contract. The panel found that PB did impliedly warrant the sufficiency of the completed design under South Carolina law, as noted in Section IV above. It also found that the express warranties discussed in Section V—specifically that the project "shall be free of design defects, errors and omissions" and that the "design shall be fit for intended use for its function"—were applicable to these breaches. This, in theory, posed a higher standard of care on PB than would result from an ordinary negligence standard.

This principle was applied with respect to one of PBC's claims for the failure of eight lateral bearings on the bridge. PBC argued that the bearings were not replaceable as required by the specifications. As a result, when the bearings failed, they had to be cut into smaller pieces to be removed. This involved considerable effort, and PBC sought over $1 million for this problem. PB argued that the failed bearings were replaceable, and that the replacement process could be done without undue difficulty.

The panel found no evidence that the replacement of the bearings was considered during the preparation of the RFC drawings. It also found the testimony of PBC witnesses as to why the bearings as installed were not replaceable without destructive removal more persuasive than that of the PB witnesses. Given this, it concluded that PBC proved that PB had breached its warranty that its work be free of design defects, errors, and omissions.

8. Lessons Learned

The ultimate outcome of any formal dispute process is dependent not only upon applicable law, but also upon the specific facts of a case; witness credibility; the "temperament" of the decision-maker (i.e., arbitrator, judge, or jury); and other project-specific factors. That

[421] *Id.* at 49.

[422] *Id.* at 42.

[423] *Id.*

[424] *Id.* at 52.

[425] *Id.*

said, the Award provides insight into how experienced construction lawyers considered several issues commonly raised when there are allegations that the designer failed to fulfill its duties to provide the design–builder a "biddable" design. For example:

• *Purpose of the proposal design.* The panel clearly understood that PB's proposal design was quite preliminary and subject to modifications as post-award studies were conducted. As they considered each claim, the arbitrators looked at evidence of what PB actually did during the proposal period, and whether this was sufficient given the information currently available. For the most part, they determined that PB established it met the standard of care for these early design services, and that the post-award design changes were a natural outgrowth of the expected, more comprehensive, design effort.

• *Involvement of the designer in establishing the price and contingency.* The fact that PBC did not involve PB in any meaningful way in establishing quantities and the contingency heavily influenced the panel. In essence, the panel found that PBC had reached its own commercial decisions on these elements of the proposal, and that PBC should have known that the proposal design would require modifications.

• *Application of implied and express warranty liability theories.* The issue of implied warranty of a preliminary design is determined by state law, and although the cases discussed in Section VI.F.1 demonstrate this as a viable theory in some states, the arbitrators (without any discussion of case law in the Award) found that South Carolina did not recognize this theory.

• *Use of colloquial terms.* Although the MOU and Design Subcontract seemed well-conceived, the issue of how to deal with "nickel-and-dime" issues was a struggle for the panel. It was a concept that the parties agreed upon, but because it was neither defined nor applied by either party, the panel could do nothing with it in deciding the case.

• *Inability of parties to rely upon "global" arguments.* An important lesson from this case is that "global" positions do not work well in deciding design disputes. PBC had to go through each claim item and show precisely how PB breached its standard of care or warranty on that item. Likewise, PB was not able to rely on its overall view that PBC failed to prove the merits or damages for each claim. In essence, each breach stands on its own, and the parties have to meet their respective burdens of proving/defending each such claim based on testimony and other evidence.

Finally, it should be noted that although the panel did not address this directly, triers of fact are influenced by the financial position of the plaintiff. Although the Award did not make this clear, PB suggested that PBC apparently made money on the project.

B. Case Studies from PLI Carriers

As noted previously, most design–build disputes are resolved without formal proceedings. This is particularly true if the dispute involves an alleged design defect, as this triggers the involvement of professional liability (i.e., Errors and Omissions (E&O)) insurance carriers. Insurance carriers evaluate a claim's merits during investigations and discovery and thus often resolve their disputes before trial. As a consequence, PLI carriers have a wealth of case studies that provide examples of the type of claims that are raised against their insureds and how they were ultimately resolved.[426]

1. Sources of E&O Claims

As might be expected, all of the major PLI carriers conduct extensive studies to assess why their insureds have claims and how to help them avoid future claims. XL Insurance Group posits that although every claim has a technical cause—such as a code violation—there are also several nontechnical factors related to business practices that can lead to or exacerbate a claim.[427] Its top four nontechnical factors for design–build claims are: 1) communications, 2) project team capabilities, 3) client selection, and 4) negotiation and contract.

Communications was the biggest problem, cited as a primary factor in 39 percent of all claims and 29 percent of claims dollars. The top five subcategories for this, in relative order of importance, were:

• Lack of procedure to identify conflicts, errors, and omissions.

• Project issues and potential disputes not handled correctly.

• Scope of services not explained to client.

[426] In writing this digest, the authors reached out to a number of the large PLI carriers to obtain examples that could be published. One of the carriers had claim histories on its Web site, and some of those studies are discussed below. Others provided examples but cited confidentiality concerns given that these examples involved nonpublic information. The narratives in this section attempt to balance these interests and provide as much information as can be shared about the respective claims.

[427] Guy LeVan, *Design-Build Claims: Risk Drivers and Lessons Learned*, International Risk Management Institute, PowerPoint presentation, 33rd IRMI Construction Risk Conference (Nov. 2013).

- Lack of documentation regarding changes in scope, budget, etc.
- Project staff not aware of responsibilities.

Project team capabilities were the next major contributor, cited as a primary factor in 25 percent of all claims and 34 percent of claims dollars. Among the top five subcategories for this, in relative order of importance, were:

- Inexperienced design staff.
- Inexperienced on-site staff.
- Inexperienced project manager.
- Firm inexperienced in project type.
- Unqualified back-up staff.

Client selection was the third biggest nontechnical problem, cited as a primary factor in 23 percent of all claims and 18 percent of claims dollars. The top five subcategories for this, in relative order of importance, were:

- Client inexperienced in design issues.
- Client has a history of claims and litigation.
- Client in poor financial condition.
- Client behind in fee payments.
- Contractor selection.

Finally, negotiation and contract issues were cited as a primary factor in 6 percent of all claims and 13 percent of claims dollars. Among the top subcategories for this, in relative order of importance, were:

- Unclear or inappropriate scope.
- No formal project evaluation.
- No contract before work started.
- Lack of construction phase services.
- Lack of mediation clause.
- No contingency fund.

It is important to note that the above compilations are likely based on all claims that XL Insurance Group has in its database, not just on design–build claims. As can be seen, however, from the reported litigation and Cooper River Bridge case study, lessons can be learned from these compilations that go directly to the design–build process.

2. Lack of Adequate E&O Insurance by Subcontractors

Although owners may require that design–builders provide a certain level of E&O insurance coverage—either directly or through their lead designer—some design–builders are not vigilant about following up on this with their respective subcontractors. Consider the following two examples.

In one unpublished case study, a PLI carrier reported that its insured was a design–builder that retained a design–build subcontractor for the construction of carport structures with solar panels. The subcontractor used incorrect wind load data and provided this data to its two structural engineers. As a result, the carport structures were underdesigned, and at least one structure failed in 35 mph winds, while six others showed significant stress and required redesign and repair. The subcontractor had no E&O insurance for design-related exposures, and one of the structural engineers appeared to have no E&O insurance whatsoever. As a result, the design–builder's PLI carrier is responding to the loss, but appears to have little ability to obtain contributions from other insurance sources.

In a reported case study,[428] XL Insurance Group noted that a general contractor entered into a design–build contract for a retail center and subcontracted the design to a design professional. During construction, it was discovered that the designer made a layout mistake on the site plan, "resulting in the retail center sitting several inches above the existing roadways. Correction of the problem was estimated to cost more than $1 million."[429] The design–builder sought indemnity from the designer but appeared to have no practical recourse, as the designer declared bankruptcy.

3. Disagreements over Proposed Fix

Once a design defect is discovered, it is not unusual for disputes to develop over the appropriate correction. In one case study, a PLI carrier noted that this type of dispute was at the heart of its claim. The owner (an airport authority) entered into a design–build contract for a taxiway rehabilitation and bridge at the airport. The design–builder had retained a structural engineer for the design work on the project. Approximately 1 year after substantial completion, cracks appeared in the deck of one of the bridge's spans. The cracks were principally in the wheel path of the airplane traffic and ran parallel to the path of travel.

It was initially believed that the cracks at issue could have been caused from heat. The issue was monitored through the fall and winter. Further investigations and monitoring suggested the issue was more complex. The structural engineer made an initial recommendation for repair of the cracks involving epoxy injections and a carbon fiber "mesh." The owner rejected this proposed fix. Following additional observations, the structural engineer

[428] This case study is available at http://resources.xlgroup.com/docs/xlenvironmental/library/industry_solutions/6117_GeneralContractors.pdf (last visited June 29, 2015) [hereinafter *XL Insurance Case Study*].

[429] *Id.*

prepared a second recommendation that proposed adding transverse reinforcement.

Although this second proposal appeared generally responsive to the conclusions reached by the owner's independent expert, the owner again rejected the proposal as insufficient. The owner asserted that this repair did not meet AASHTO's requirements that the bridge have a 75-year service life. The owner took the position that to obtain this service life, the span had to be removed and replaced at a cost of over $1.5 million. It commenced demolition and construction of the new span. The structural engineer disagreed over the scope of the repairs and refused to pay for the associated costs of the remediation. The design–builder's PLI carrier responded financially to the owner on behalf of the design–builder, and as of the date of this publication, is pursuing recovery from the engineer.

In a reported case study, XL Insurance Group noted that a contractor designed and installed mechanical, electrical, plumbing, and fire sprinkler systems on a hotel project. The project owner alleged design errors "in excess of $9 million against the contractor because the fire suppression system was found not to be in compliance with code and the electrical distribution system did not work properly." The contractor did not carry any E&O insurance and was forced to seek bankruptcy protection.[430]

4. Public–Private Partnership Highway Claim

A PLI carrier reported that one of its insureds, the design–builder on a new public–private partnership highway project, faced several claims from the concessionaire. The concessionaire alleged errors and omissions in the performance of professional services, and that these actions resulted in project delays costing millions of dollars in damages.

One claim involved alleged problems with the concrete mix design on certain project elements, including the potential for alkali-silica reactivity (ASR) issues with the concrete. ASR is a reaction that occurs over time in concrete between highly alkaline cement paste and reactive silica components found in common aggregates. This reaction can cause expansion of the altered aggregate by the formation of a swelling gel of calcium silicate hydrate. The gel increases in volume with water and exerts an expansive pressure inside the material, causing cracking and eventually failure. Fly ash is used to reduce that destructive expansion. Unfortunately, the design–builder, for cost-saving reasons, used a 15 percent fly ash admixture rather than the approved mix design requiring a 25 percent admixture—making the aggregate potentially reactive and raising the possibility of ASR problems.

The second major claim involved mass concrete thermal issues and the potential for delayed ettringite formation (DEF) in certain concrete elements of the project. Ettringite is formed in cement as a result of the reaction of calcium aluminates with calcium sulfate. DEF is the result of improper heat curing of the concrete that suppresses normal ettringite formation. Excessive heat during curing causes cement paste to expand, which causes empty cracks (i.e., gaps) to form around aggregates. The cracks may remain empty or later be only partly filled with ettringite. The project specifications required heat of hydration temperatures in mass concrete placements to not exceed 158 degrees Fahrenheit. Project instrumentation recorded temperatures during placement well in excess of that maximum temperature.

A project-specific E&O policy covered both engineering design and construction management services. As of the date of this publication, the claims were still being evaluated.

5. VE-Type Claims

Potential liability arising out of VE services and ATCs has been discussed in several sections of the digest. Although there are few reported cases, XL Insurance Group has published two case studies that are instructive on this issue.[431]

In one case, an airport hired a general contractor to develop a retail and transportation center adjacent to an existing airport. Among other things, the contract called for the contractor to schedule, coordinate, and inspect the quality of the project. When the project schedule slipped, the contractor investigated shortening the curing time of a parking structure's cast-in-place slabs. Its study suggested this could be done. Curing braces were removed sooner than originally recommended, and the fourth floor slab collapsed onto the third floor slab, "pancaking" the entire structure. One worker was killed and many more were injured. Among the claims against the contractor was that it breached its professional obligations. The contractor was ultimately held responsible for millions of dollars in losses.

Another case involved a contractor being hired by a school to provide constructability and VE services. The contractor determined that the HVAC system was undersized and recommended changes, which the owner rejected due to cost. The moisture from the undersized system caused the growth of mold. The school claimed that the contractor was responsible as a result of its failure to properly warn the

[430] *XL Insurance Case Study.*

[431] *XL Insurance Case Study.*

owner of the consequences of an underdesigned system. The contractor was held partially liable based on this theory.

6. Deficiencies in Owner-Furnished Information

This digest extensively discusses liability arising from defective owner information. One PLI carrier discussed a claim in the context of missing owner information. The claim involved a design–build–operate contract for a new water treatment plant. The owner provided the design criteria for typical levels of contaminants contained in the raw water source and the acceptable levels for the treated water based on federal standards. The owner did not convey that the lake used for the raw water source was subject to seasonal algae blooms that would cause a spike in the quantity of organic solids. After the project was completed and in operation, an algae bloom occurred and clogged up the submerged membrane strainers, resulting in a significant decrease in plant performance. The owner opined that the design–builder should have known about these algae blooms because it had designed and built another plant that used the same lake for the raw water source and should have designed the subject plant accordingly.

7. Liability for Underbidding

As discussed in the Cooper River Bridge case study, there are common examples of professional claims arising out of alleged errors committed by the designer during the proposal stage. The surveyed PLI carriers provided several examples of these.

One reported that due to a rush to prepare a bid submission within only a few weeks, its insured, the designer, made an error by underdesigning the steel on a state bridge design–build project. The design–builder underbid all other bidders by $4 million to $5 million and was awarded the project. The PLI carrier suspected that the transportation agency realized that something was wrong as soon as it saw the bid. However, it accepted the bid and then pointed out the error. Because both the designer and design–builder contractor did significant work for the transportation agency, they did not feel it appropriate to back out of the bid and risk future business. As a result, they honored the bid and went forward with the work. Because of the designer's error, its PLI carrier paid policy limits of $2 million, with the belief that the design–builder also incurred significant costs in performing the work.

C. Technical Case Studies on Design Administration

Numerous design–build case studies in published literature describe transportation agency procurement, contracting, and execution practices influencing project outcomes. The following three case studies focus on how agencies used creative techniques relative to the design process to accomplish their budgetary and schedule-related goals.

1. MnDOT: I-35W St. Anthony Falls Bridge Replacement Project

This project arose out of the August 1, 2007, evening rush-hour collapse of the I-35W bridge near Minneapolis, which killed 13 people, injured more than 100 more, and caused state transportation agencies around the country to rethink the safety of their existing infrastructure assets. MnDOT needed not only to quickly replace the I-35W bridge, but also to expeditiously remove the disaster's wreckage from the Mississippi River to restore barge traffic on that important interstate commerce route.

MnDOT accomplished its goal. Flatiron-Manson, a Joint Venture, was awarded a $234 million design–build contract on October 8, 2007. The bridge was open for traffic on September 18, 2008, less than 14 months after it collapsed. This provides an excellent case study in both how to conduct an emergency delivery of a major urban interstate bridge and some of the design and acquisition issues that can arise during the procurement.

The replacement bridge is 189-ft-wide with five lanes of traffic running each direction. The central clear span over the river is 504-ft-long, and the overall length of the bridge is 1,223 ft from abutment to abutment. The bridge was designed and constructed to be ready for the construction of a future light rail feature.

The replacement bridge required 13 parcels of land, 3 of which were complete acquisitions and the remainder of which were partial takes. MnDOT used an innovative two-step process to obtain immediate access to the properties and avoid the typical delays associated with the right-of-way process.[432] An initial "Right of Entry" easement was negotiated with each landowner, for which each was paid a nominal $1,000. Owners were then given a guaranteed timeline for closing the financial part of each deal. This procedure guaranteed access to critical pieces of property for both demolition and construction activities. It was also noted that the affected property owners were "generally more cooperative given the nature of the work and the emotional impact on the community of the failure of the 35W Bridge."[433]

[432] Tom Warne, The St. Anthony Falls Bridge Project, Successful for Many Reasons: Lessons Learned 26 (Minnesota Department of Transportation Report, 2008) [hereinafter *MDOT Lessons Learned*].

[433] *Id.*

The project required a total of 10 permits, as well as an emergency environmental impact analysis. To expedite the process, MnDOT requested a "Categorical Exclusion" for the project. As a result, MnDOT had to carefully manage the final scope of work to ensure that betterments did not jeopardize the exclusion. For example, proposals to rebuild the undamaged interchanges at either end of the bridge were excluded because their inclusion would have made the project length exceed 1 mi—thereby preventing a Categorical Exclusion finding and delaying the project.[434] The betterments would also have required additional funding as they would not have been eligible under Emergency Relief (ER) program provisions, further exacerbating the potential delay.[435]

The MnDOT project team approached obtaining permits using the philosophy to "Build the largest project possible with the smallest environmental process."[436] In furtherance of this, it held a permitting kick-off meeting with the heads of local, state, and federal permitting authorities to "ensure buy-in from the top down."[437] The meeting resulted in agreements or understandings on permitting approvals, mitigation expectations and submittal requirements, barriers to overcome, and a single point of contact with decision-making authority in each agency. Among other things, MnDOT:

- Obtained an agreement from the resource agencies to make each document received "the priority of the reviewer and it was immediately reviewed and comments returned in a very timely manner."[438]
- Delegated the authority to make project scope and specific design decisions to the individuals that managed the project and prepared the permit applications.
- Took full advantage of existing programmatic agreements and categorical exclusions wherever appropriate.
- Convened a meeting with the competing proposers and the affected utility companies during the procurement phase to furnish first-hand information on potential utility relocations. This also provided an opportunity for the industry to ask the utilities direct questions rather than rely on the request for information process.

MnDOT used a best-value, weighted criteria procurement process, and the procurement was completed in "record time."[439] The Request for Quotations required a

> much-abbreviated Statement of Qualifications (SOQ) process…designed to balance the state's need to have key information about the proposing teams and the desire to reduce the effort required by the teams to enter the proposing process…to not do anything to discourage potential proposers from entering the competition for the project or to distract them from the more important efforts of putting their proposal together.[440]

The centerpiece of the procurement process was the MnDOT Preapproved Elements (PAE) process. The unique aspect of the procurement process that was particularly important to the design aspects of the project was the use of "private and confidential preproposal meetings," with the purpose described as follows:

> Each Proposer is invited and encouraged to attend a private preproposal meeting at which the Department will address and respond to the Proposer's concerns and questions regarding details of the project scope, administrative procedures, outstanding issues for the remainder of the bid process, and any other related matters. Each meeting would be private in that only one Proposer would meet with MnDOT representatives at a time. Proposers are not required to accept the meeting invitation.[441]

While it is now relatively common for design–build procurements to use these confidential meetings, that was not the case in 2007.

Unlike its previous design–build projects, MnDOT chose to limit the number of ATCs that a given proposer could generate. The goal was to focus the process on high-value ATCs and avoid the administrative requirement to review and approve or disapprove numerous ATCs of trivial or no value. Once an ATC was submitted, a review panel made up of technical experts met with the proposer. If the ATC was acceptable, it was approved and incorporated in the proposer's scope of work as a PAE. This allowed the proposer to include the ATC/PAE in both its technical package and its price proposal. Flatiron-Manson indicated that "MnDOT did an excellent job in managing the procurement process. Of particular value… the one-on-one meetings [got] answers quickly, [and the] responsiveness saved time and effort in putting their [FM's] proposal together."[442]

A six-member technical review committee (which did not include anyone who was involved in the PAE process) evaluated the four proposals that were ultimately submitted. Flatiron-Manson's proposal received the highest technical score, 95.30 out of 100

[434] *MDOT Lessons Learned.*

[435] Minnesota Department of Transportation, *I-35W Streamlining for Emergency Relief Program Provisions,* Unpublished Working Paper, 2008, at 1–2.

[436] *Id.*

[437] *Id.*

[438] *Id.*

[439] *MDOT Lessons Learned.*

[440] *Id.*

[441] Minnesota Department of Transportation, Construction Tools–Force Account, http://www.dot.state.mn.us/const/tools/forceaccount.html (last visited June 29, 2015).

[442] *MDOT Lessons Learned.*

possible points. The next highest score was 71.40. Although Flatiron had the highest price and tied with another company for submitting the longest delivery time, its high technical score enabled Flatiron to win under MnDOT's best-value formula.

Although the industry widely praised MnDOT for its expeditious procurement approach, there was some controversy. Shortly after the award to Flatiron-Manson, a Minnesota taxpayer filed a lawsuit seeking an injunction and declaratory relief that Flatiron-Manson's proposal should have been rejected as being nonresponsive.[443] The taxpayer was unsuccessful at the trial court and appealed to the Minnesota Court of Appeals. The decision of this appellate court, *Sayer v. Minnesota Department of Transportation*,[444] affirmed the trial court's decision and found MnDOT's procurement to be proper.[445]

> The taxpayer argued that two elements of the proposal deviated from the RFP's requirements. One involved the proposal's statement that it would be working outside of specified right-of-way limits. The other was that the proposal design used concrete-box girders with only two webs each, contradicting the RFP's requirement that concrete-box designs use a minimum of three webs. The taxpayer argued that, under Minnesota law, MnDOT did not have discretion to determine whether a proposal responded to the specifications of the RFP, and had no choice but to reject Flatiron's proposal as being nonresponsive.
>
> The appellate court noted that in a traditional design–bid–build process, the taxpayer might be right. However, under Minnesota's design–build statute, which authorized a best-value selection process, MnDOT could consider factors other than cost when awarding contracts. The court noted that the design in a design–build RFP is not complete and that proposers will be submitting technical approaches based on these incomplete designs.
>
> The court stated that "the plain terms of the design–build statute indicate that the legislature's intent is to permit the [technical review committee], by applying its judgment based on the advertised selection criteria, to evaluate proposals where no finished design exists to which the proposals must conform."[446] As a result, the court found that the committee had discretion to decide whether a design–build proposal was responsive, which decision could only be reversed if there was an error of law, or if the findings were arbitrary, capricious, or unsupported by substantial evidence.
>
> As to the right-of-way issue, the taxpayer relied on an RFP instruction that the proposed work was not to include any additional right-of-way. Flatiron-Manson's proposal required work outside the ROW defined in the RFP for the purpose of lowering Second Street. MnDOT countered by arguing that it added this instruction after it received a request for clarification from another contractor that was planning to take additional right-of-way and add traffic capacity in an area of the project that would have required more environmental review and more municipal consent. MnDOT claimed that the instruction relied on by the taxpayer was not intended to be a "project-wide directive" to proposers on right-of-way limitations, and that nothing in the RFP forbade any proposer from obtaining right-of-way on Second Street. The court agreed with MnDOT.
>
> As to the concrete-box girder issue, the court stated that Flatiron-Manson's proposal included eight webs, four in each direction of traffic, but only two webs per concrete-box girder. The court interpreted the RFP to require a minimum of three webs per direction of traffic, not three webs per concrete-box girder. Because Flatiron's proposal exceeded this minimum requirement, the court rejected the taxpayer's argument that the proposal was nonresponsive.

2. Colorado Department of Transportation (CDOT): U.S. Route 160 Fourth Lane Addition

This $29.5-million project was delivered with what CDOT calls a "modified design–build" approach.[447] It illustrates how design liability can be shared for a project in which design has been substantially advanced to a point where it will be difficult to assign design performance liability to the design–builder.[448]

The project included the design of four bridges in a mountainous terrain, crossing U.S. Route 160 and the environmentally-sensitive Wilson Gulch. The project included the addition of a fourth lane on U.S. Route 160 and the construction of portions of ramps. It was originally programmed for design–bid–build delivery. In January 2007, however, CDOT was informed that the project had been funded early and had to be advertised by June 2007. By January 2007, a major portion of the civil and traffic design was underway and could be finished by June, but other specialties such as bridges, walls, and drainage could not be finished in that time frame.[449]

CDOT decided that its best option was to assume design liability for the completed design and only allocate design responsibility to the contractor for

[443] *See* Jennifer S. Shane, Douglas D. Gransberg, Keith R. Molenaar & Joseph R. Gladke, *Legal Challenge to a Best-Value Procurement System, in* Leadership and Management in Engineering, Vol. 6, Issue 1, Jan. 2006, at 1-6.

[444] 769 N.W.2d 305 (Minn. 2009).

[445] The following write-up for this case is taken (with permission from the American Society of Civil Engineers) from Michael C. Loulakis & Lauren P. McLaughlin, *Appellate Court Validates I-35W Bridge Procurement,* Civil Engineering: The Magazine of the American Society of Civil Engineers, Oct. 2009, at 88.

[446] Sayer, 769 N.W.2d at 311.

[447] Pete Graham, Colorado Department of Transportation, Evaluation of Design-Build Practice in Colorado Project IR IM(CX)025-3(113), at 25–26 (2001).

[448] Douglas D. Gransberg & Elizabeth Windel, *Communicating Design Quality Requirements for Public Sector Design/Build Projects,* 24 Journal of Management in Engineering 105–110 (Apr. 2008).

[449] David N. Sillars & Landon Harman, *Case Studies in Innovative Quality Assurance Methods for Alternative Delivery Projects,* Transportation Research Board 92nd Annual Meeting Compendium of Papers (2013).

the bridges, walls, and drainage.[450] It used a single-phase, low-bid selection process to select a general contractor.[451] The general contractor did not have the freedom to select its own design partner but was required to select a designer from a list of CDOT prequalified firms, which included the same group that would have been used if the project had been completed as a design–bid–build project.

CDOT instituted a series of design quality assurance reviews that were intended to ensure that the completed design package was properly coordinated with the uncompleted packages.[452] The RFP described the reviews as follows:[453]

- *Constructability Review.* A review performed at the corresponding stage of design development that considers, among other things: 1) consistency with design concept objectives, 2) adequacy of information on the plans and specifications to construct the work, and 3) ability of the design to be constructed within the required schedule given site restrictions.
- *Design Coordination Review.* A review that addresses the design approach, suitability, completeness, interferences, and conformance with contract requirements. This review is not to be conducted by the design task lead.
- *Final Package Review.* A review performed after design quality checks have been completed, for purposes of verifying that the package is complete and approved for construction.
- *Quality Assurance Audit.* An audit performed by the Project Quality Assurance Officer at the end of each completed final package to assure that plans, specifications, calculations, and design reports have been checked, reviewed, and properly signed-off in conformance with the design QCl report.

Innovation on the project was limited due to CDOT's constraint on additional design. CDOT dictated the type and aesthetic of the bridges and even completed some of the designs before the contractor was brought on board. In addition, CDOT retained control of some aspects of the design, such as lighting and landscaping. The CDOT bridge section had a difficult time relinquishing control over the bridge designs, as it preferred having more design reviews. However, with the number of design reviews already required by contract, it was challenging to manage the number of submittals and have CDOT respond within 2 weeks.[454] One thing that helped this process was getting commitments up front from internal CDOT bridge personnel for the project and the project requirements.[455]

Another design administration difficulty involved the understanding by CDOT bridge section personnel as to the difference between a design requirement and a design preference. If it was a preference and CDOT accepted the "change," then the contractor was entitled to additional monies to implement the preference.[456] A specific example is the size of the monuments on the abutments. Originally they were very small but met the requirements. CDOT wanted larger monuments and eventually approved and paid for them.

The original RFP required the contractor to provide a full-time third-party independent design reviewer for the duration of the project to take some of the design review burden off of CDOT and shift it to the contractor. This was removed before the solicitation was issued to reduce the cost of the project, and CDOT assumed responsibility, implementing an over-the-shoulder review process.[457] CDOT also internally provided a full-time construction inspector. It is believed that this cost CDOT more than having the contractor hire a third-party inspector, but at the time of contract award, CDOT did not have a sufficient budget to require this of the contractor.

CDOT considered the project successful overall, but there were several specific quality issues that required negotiations during project close-out. One related to cracking in the CDOT-designed bridge abutments. The contractor discovered the cracks during the pre-final inspections and negotiated the appropriate procedure for fixing the existing cracks and preventing future ones. CDOT assumed full design liability for these types of issues, and there are no known claims or litigation pending on the project.[458]

3. I-270 Slide Repair Project—Missouri Department of Transportation

This project involved a design–bid–build expansion project undertaken by Missouri Department of Transportation (MoDOT) on the eastbound lanes of I-270 in St. Louis County, Missouri. MoDOT

[450] Keith R. Molenaar, Douglas D. Gransberg & David N. Sillars, Guidebook on Alternative Quality Management Systems for Highway Construction (Nat'l Cooperative Highway Research Program Report No. 808, Transportation Research Board, 2015).

[451] Colorado Department of Transportation, Design–Build Manual 46 (2006, as revised June 11, 2014).

[452] *Id.*

[453] Colorado Department of Transportation, Request for Proposal, Book 2, U.S. 160 Fourth Lane Expansion, 2007.

[454] Molenaar, Gransberg & Sillars, *supra* note 450.

[455] Sillars & Harman, *supra* note 449.

[456] *Id.*

[457] Molenaar, Gransberg & Sillars, *supra* note 450.

[458] *Id.*

concluded that the project faced the risk of landslides. It was concerned that its conventional approach of dealing with landslides that occurred during construction would prolong the time that I-270 was closed to traffic.

To mitigate this risk, MoDOT "nested" a design–build provision within the construction contract.[459] The purpose of this was to have a geotechnical design–build subcontractor "on call" in the event of a landslide, which would shorten the time the roadway would be out of operation by allowing that subcontractor to begin preliminary construction tasks while the design of the repair was underway. This also had the added benefit of encouraging the use of innovative means and methods to reduce the cost of the slope repair.

Consistent with this approach, MoDOT used a qualifications-based selection process to procure the subcontractor. For bidding purposes, this work was treated like an allowance and all the bidders on the low-bid construction contract used the same number for that lump sum pay item. Prior to advertising the project, MoDOT completed a preliminary geotechnical risk analysis, which pointed to the use of a soil nail wall as the best technical option for restoring traffic after a slide. MoDOT's in-house designers, however, lacked the technical expertise to design soil nail walls, which led them to develop the "nested design–build" lump sum pay item. The wall was "a key design element that allowed the slope to be safely excavated top down so that a rock slope could be rebuilt with rock…[and] the nested design–build allowed the design [of the soil nail wall] to be completed quickly,"[460] which is another reason that MoDOT decided to obtain that expertise by using the nested design–build subcontract. Ultimately, the competition for the design–build subcontract was based on the qualifications and past experience of offerors with designing and building soil nail walls. Once selected, however, the winning design–build subcontractor had the latitude to propose a different option if the technical requirements of the actual landslide demanded it.

The project experienced a landslide that damaged a triple box culvert and threatened to close the road. This triggered the application of the subcontract, and the design–build subcontractor designed and constructed a temporary soil nail wall to protect the Interstate traffic and repair the culvert. As part of the design process, the design–build subcontractor undertook the necessary geotechnical investigation and testing, which resulted in a geotechnical design report that quantified the actual scope of the emergency repair. During the design period, MoDOT conducted over-the-shoulder reviews of the design–build subcontractor's design work, further expediting the approval of the soil nail wall design. This had the added benefit of permitting an information-rich communication environment, as MoDOT designers took over from the design–build subcontractor to complete the final redesign based on the technical constraints imposed by the temporary slide repair work.

The nested design–build subcontract allowed construction to proceed only 5 days after the design was submitted and the construction to be completed 120 days after the slide damage occurred. This is in contrast to two previous emergency MoDOT projects, where construction could not proceed for 50 days after design submission and took an average of 205 days from slide to construction completion.[461] These designs were completed by consultants and required the procurement period necessary to consummate a consultant design contract. The use of the soil nail wall permitted the construction to be completed without the need to close any lanes on I-270.

IX. CONCLUSION

Although design–build is a relatively new project delivery system in terms of case law, some important judicial principles relating to it have already been established. For example, although owners have tried to shield themselves from liability under the "single point of responsibility" doctrine, they have been generally unsuccessful in avoiding the implications of the *Spearin* doctrine. Courts have, to date, overlooked contract language and concluded that design–builders should not be held financially responsible for the consequences of defective owner-furnished information that they reasonably rely on during the bidding process.

As is evident, however, from the cases reported on in this digest, the issues of design–build liability are far more complex than applying the *Spearin* doctrine. The design review process creates some major administrative challenges, as design–builders can be significantly impacted by late and disorganized owner actions upon submittals. Case law suggests that the design–builder will have a remedy against the owner if it can prove that it met the notice requirements in the contract and can demonstrate the cause-and-effect that the owner's actions had on the design–builder's overall schedule. Stated differently, owners need to understand

[459] *See generally* Kevin W. McLain, Design-Build Procurement Process for Slope Repairs and Slope Stabilization Projects for Roadways on the Missouri State System 66 (2008) (Master's Thesis, Iowa State University).

[460] *Id.*

[461] *Id.*

this potential exposure and manage their design review processes efficiently.

Although some areas are becoming settled, there are at least two major areas where there is insufficient case law to predict ultimate liability—and they both involve design professionals. For those design professionals that are part of the design–build team as a subcontractor, it is clear that there is a potential for liability during the proposal process. This is discussed in both Section VI.F.1 and in the Cooper River Bridge case study. Although the liability theories are somewhat easy to articulate (e.g., implied warranty of sufficiency of bidding documents or breach of the standard of care), they are difficult to apply to specific situations. That is quite evident from the Cooper River Bridge arbitration. As for those design professionals who are working directly for an owner and creating RFP documents, the standard of care for deficiencies in those documents is not well-developed, and there is no real case law to help the industry at this point in time.

A final thought on the subject of liability. The axiom "with control comes responsibility" is a useful tool to remember in assessing how courts generally view liability on construction projects. When in doubt, participants in the design–build process should keep in mind that the more they exercise control of a given situation, the more likely it is they will have some form of responsibility if things go wrong.

APPENDIX A: RIGHT-OF-WAY REQUIREMENTS AND CONTRACT TERMS FOR CERTAIN DESIGN–BUILD AND PUBLIC–PRIVATE PARTNERSHIP PROJECTS

The following charts summarize right-of-way (ROW) requirements and contract terms for certain design–build and public–private partnership projects:

Design–Build Projects

Agency/Project; Contract Price (in millions); ROW needs	Schedule for ROW acquisitions	Responsibility for ROW land cost	Responsibility for ROW acquisition-related activities	Utility easements	Temporary construction easements	Comments
ADOT (Loop 202 South Mountain Freeway) (from RFP) Est. $1,200 Est. 377 parcels required. Total acquisition estimated to exceed 1800 acres.	As of June 12, 2015, ADOT owned approximately 12% of the parcels, or ~40% of the estimated acreage. Contract includes outside dates for ADOT to acquire a number of "Retained Parcels," which include certain single family residential parcels and parcels with lengthy relocation times.	Anticipated that ADOT will pay for all permanent property interests for the project, except for additional properties required due to developer's design decisions. Anticipated that developer will pay for utility and temporary construction easements.	Since issuance of the ROD, ADOT has been pursuing acquisitions of approximately 250 parcels, which are primarily full takes. ADOT will continue ROW acquisitions until it awards the DBM contract. Following award, ADOT anticipates developer will take responsibility for professional ROW acquisition and relocation services for all not-yet-acquired parcels, except certain "Retained Parcels" identified in the contract.	Developer must, at its cost, provide acquisition services for any utility easements required for utilities identified in the RFP.	Anticipated that developer may obtain at its own expense.	As of June 12, 2015, project is in procurement for a design–build–maintain contract. Contract award expected in first quarter of 2016.

Agency/Project; Contract Price (in millions); ROW needs	Schedule for ROW acquisitions	Responsibility for ROW land cost	Responsibility for ROW acquisition-related activities	Utility easements	Temporary construction easements	Comments
Alameda Corridor Transportation Authority (1998) $700 ~90% of project ROW already in hand prior to contract award, much of it obtained through negotiations with railroad operators. Hundreds of parcels required, approximately 50 of which impacted the DB schedule.	Contract includes outside dates for acquisition of each parcel within the project envelope that was not already acquired by the Authority prior to NTP2. For parcels not identified in contract, Authority has 50 days after receipt of a property binder to make a determination whether to acquire, then 210 days thereafter to provide access to unimproved parcels and 270 days for improved parcels.	Authority pays for all permanent property interests for the project.	Authority responsible for acquisition of major portion of ROW. Authority identified certain "advanced acquisition" parcels and committed to provide them by a specified date. For other parcels, contractor responsible, at its cost, for preparing property binders and other acquisition services for parcels to be acquired post-NTP2. Contractor also responsible for providing expert witness services for condemnation actions.	Contractor must, at its cost, provide acquisition services for any utility easement for which the applicable Master Agreement makes Authority responsible. Contractor reimburses Authority for all costs it incurs in acquiring utility easements, except for any city-owned utilities and any utilities for which the utility owner bears cost responsibility.	Contractor may obtain at own expense with Authority's approval.	Contract required completed subgrade in the North and South Ends to be turned over to the contractor by October 15, 2001. In fact the vast majority of the project was turned over early. Several parcels were not acquired by the deadline, but the contractor was able to work around them.

Agency/Project; Contract Price (in millions); ROW needs	Schedule for ROW acquisitions	Responsibility for ROW land cost	Responsibility for ROW acquisition-related activities	Utility easements	Temporary construction easements	Comments
CDOT/RTD (T-REX) (2001) $1,161 Approx. 30% of ROW acquired as of proposal date. Over 100 parcels still required as of contract award.	Contract includes outside dates for acquisition of parcels identified in the RFP.	CDOT/RTD pays for all ROW identified in RFP and any additional parcels acquired due to CDOT-directed change or necessary design change. Contractor pays for all other property.	CDOT/RTD responsible for acquisition services for ROW identified in RFP and any additional parcels acquired due to CDOT-directed change or necessary design change, at its cost. Contractor responsible for acquisition services for additional property, at its cost.	CDOT/RDT responsible for costs of acquiring replacements for utility easements located within ROW boundaries (unless the utility owner has cost responsibility). Contractor responsible for costs of other utility easements (unless the utility owner has cost responsibility).	Contractor may obtain at own expense with CDOT/RTD's approval. Contractor may request CDOT/RTD's assistance.	The information provided with regard to this project is based on a review of the relevant provisions in the DB Contract only.

Agency/Project; Contract Price (in millions); ROW needs	Schedule for ROW acquisitions	Responsibility for ROW land cost	Responsibility for ROW acquisition-related activities	Utility easements	Temporary construction easements	Comments
Eastern Toll Road (1995) $678 24-mi, 6-lane corridor. The majority of the ROW was acquired from The Irvine Company, with a significant number of parcels acquired from other property owners.	Determined after receipt of property binders from design–builder, depending on whether the property is to be acquired through dedication or not and whether or not condemnation is required.	Owner pays for ROW required within the agency-provided construction limits, mitigation areas, the utility easements, property to be used for the Agency Administration Building and the Caltrans Regional Maintenance Facility, and property necessary for arterial improvements included in the project.	Design–builder provides property binders and certain other services including provision of expert witnesses; Owner negotiates acquisitions and is responsible for litigation.	Owner acquires.	Design–builder responsible for TCEs; may request owner to acquire.	
MnDOT (TH 212) (2004) $238 Book 2 of the contract documents includes a R/W Work Map identifying parcels owned and to be	MnDOT and contractor to mutually determine which parcels are on the critical path and establish dates to be included in the baseline schedule for activities associated with provision of access.	MnDOT. Mn/DOT shall provide access to the ROW identified on the R/W Work Map. The cost of obtaining any ROW not identified on the R/W Work Map associated with a Value Engineering Change Proposal will be considered in determining the contract price adjustment. Subject to MnDOT approval, contractor shall reimburse	MnDOT.	Contractor.	Contractor. For purposes of the contract, construction easements are defined as "Non-permanent easements, other than those provided by Mn/DOT in accordance with the R/W Work	

Agency/Project; Contract Price (in millions); ROW needs	Schedule for ROW acquisitions	Responsibility for ROW land cost	Responsibility for ROW acquisition-related activities	Utility easements	Temporary construction easements	Comments
acquired by MnDOT.		MnDOT for any costs (including attorneys', accountants', and expert witness fees and costs) of acquiring any real property that is not MnDOT's responsibility under which contractor determines is necessary or advisable in order to complete the project, including obtaining any construction easements.			Map, that Contractor determines are desirable to perform the Work."	
SCDOT (U.S. 701 Bridge Replacements) (2015) $48 Inf. not available.	Contractor sets schedule.	Contractor responsible for ROW services and ROW acquisition costs. SCDOT responsible for premium ROW costs and cost of second appraisals, with certain exceptions. (Premium ROW acquisition costs are the amount awarded or settlement amount exceeding "Just compensation.")	Contractor is responsible for acquisition services and costs of acquisitions and relocations, except as noted below, and must follow procedures approved by SCDOT. Contractor acts as an agent on behalf of the State of South Carolina in the acquisitions. State provides legal services for cases going to trial and will provide a representative to make timely decisions regarding just compensation,	For those utilities that have prior rights SCDOT is responsible for permanent relocation costs.	Contractor is responsible for all contacts with landowners for ROW or construction items.	Contractor is required to use ROW consultants on SCDOT's "on call" list.

Agency/Project; Contract Price (in millions); ROW needs	Schedule for ROW acquisitions	Responsibility for ROW land cost	Responsibility for ROW acquisition-related activities	Utility easements	Temporary construction easements	Comments
			approve relocation benefits, and approve administrative settlements. SCDOT is responsible for "premium" ROW costs (costs exceeding just compensation) and cost of second appraisals, excluding any additional property identified by contractor for acquisition.			
TxDOT (Grand Parkway Segments F-1, F-2, and G) $1,007 Over 400 parcels to be acquired.	Contractor sets schedule	TxDOT pays for all real property within the ROW lines depicted in the NEPA approvals. Developer responsible for costs of acquiring any additional real property necessitated by contractor's design.	Contractor is responsible for acquisition services, including preparation of acquisition packages and condemnation packages, surveys, condemnation support, offers and relocation assistance, and the costs of acquisitions. TxDOT is responsible for approval of acquisition packages and condemnation packages, clearing title, and providing access within 365 days after approval of a condemnation package.	Contractor is responsible for acquiring and costs of acquiring utility easements.	Contractor is responsible for acquiring and costs of acquiring temporary construction easements.	

Agency/Project; Contract Price (in millions); ROW needs	Schedule for ROW acquisitions	Responsibility for ROW land cost	Responsibility for ROW acquisition-related activities	Utility easements	Temporary construction easements	Comments
			Attorney General provides legal services for condemnation actions.			
UDOT (I-15 CORE) (2009) $1,725 Contract includes a ROW schedule identifying parcels to be acquired. According to UDOT 2012 Efficiencies Report, 287 parcels were acquired.	ROW schedule shows the minimum dates UDOT reserved for acquiring access to the parcels identified on the ROW plans. Prior to NTP2 and concurrent with development of the project schedule, design–builder may request UDOT to reprioritize the sequence of ROW acquisition to better accommodate the performance of work.	UDOT pays for all real property depicted in the ROW plans. Design–builder must reimburse UDOT for any costs of acquiring any real property that is not identified in the ROW plans.	UDOT responsible for services related to acquisition within the ROW plans. UDOT responsible for providing access to property not identified on the ROW plans, provided that design–builder delivers the necessary property acquisition instruments and UDOT determines, in its sole discretion, that such property is required for the project.	UDOT responsible for acquiring, and the cost of acquiring, all utility easements located within the ROW depicted in the contract drawings, whether or not such utility easements are actually shown in the contract drawings. UDOT also responsible for acquiring, and the cost of acquiring, utility easements for which a replacement easement is necessary to meet the requirements of the contract documents.	UDOT may provide temporary interest in property not identified on the ROW plans if UDOT decides, in its sole discretion, that such temporary interest in property is required for the project. Design–Builder responsible for any costs incurred by UDOT in acquiring any such temporary interest in property.	Per UDOT 2012 Efficiencies Report: ROW acquisition posed significant delay risk. Allowing sufficient time for proper acquisition, documentation, appraisals, and negotiation is critical to project success. UDOT's ROW team worked closely with UDOT's designers to identify ROW needs during pre-proposal period. This allows ROW agents an early start to develop ROW documents and negotiate and acquire property based upon conceptual design.

Agency/Project; Contract Price (in millions); ROW needs	Schedule for ROW acquisitions	Responsibility for ROW land cost	Responsibility for ROW acquisition-related activities	Utility easements	Temporary construction easements	Comments
				Design–builder responsible for, and shall reimburse UDOT for any costs related to, the acquisition of all other utility easements.		DB was required to design and construct within the provided boundary. If improvements could not be accommodated within ROW provided, UDOT paid for the ROW. UDOT ROW team worked closely with DB designers during final design to further refine and sometimes eliminate ROW impacts.

Public–Private Partnership Project

Project; Contract Price (in millions); Project ROW needs	Schedule for ROW acquisitions	Responsibility for ROW land cost	Responsibility for ROW acquisition-related activities	Utility easements	Temporary construction easements	Comments
FDOT (I-4 Ultimate Project) (2014) $2,300 Most of the Project ROW already in hand prior to contract award. FDOT to acquire 39 additional parcels listed in a table in the technical requirements.	Identified parcels are to be made available by FDOT to concessionaire by the project ROW certification deadline.	FDOT responsible for the cost of acquiring the project ROW identified in the project ROW maps and any additional project ROW necessitated by an FDOT change or an FDOT-caused delay caused by an error in preliminary design that cannot be corrected through a waiver, deviation, or design exception from the contract requirements. Concessionaire responsible for all costs incurred by FDOT in the acquisition of any other additional project ROW that the concessionaire requests and FDOT approves.	FDOT responsible for the acquisition of the project ROW identified in the project ROW maps and any additional project ROW necessitated by an FDOT change or an FDOT-caused delay caused by an error in preliminary design that cannot be corrected through a waiver, deviation, or design exception from the contract requirements. FDOT responsible for acquiring any other additional project ROW that the concessionaire requests and FDOT approves. Concessionaire responsible for the cost of such acquisitions and bears the sole risk and cost of any time and cost impacts to the work related to such acquisitions.	Utility easements are not specifically addressed in the contract, but the definition of project ROW is broadly written and therefore includes utility easements.	Concessionaire responsible for obtaining any real property that is not project ROW that concessionaire deems desirable for the project, including temporary permits and leases needed for construction staging.	The I-4 Ultimate Project is a Design–Build–Finance–Operate–Maintain project. The information provided with regard to this project is based on a review of the relevant provisions in the Concession Agreement only.

APPENDIX B: ANTI-INDEMNITY STATUTES APPLICABLE TO PUBLIC AGENCY CONTRACT

State	Code	Section	Summary*	Comments
Alaska	Alaska Stat.	45.45.900	Bars indemnity for sole fault.	Does not apply to the handling of hazardous substances.
Arizona	Ariz. Rev. Stat.	32-1159, 34-226, 41-2586	Bars indemnity for sole fault (private work); bars indemnity for sole or partial fault and closes additional insured loophole (public work).	Makes an exception for indemnification by a subcontractor of a person who is not a party to the contract and enters onto adjacent land.
Arkansas	Ark. Code	4-56-104, 22-9-214	Bars indemnity for sole fault and expressly allows additional insured.	
California	Cal. Civ. Code	2782–2782.5	With respect to public projects, bars indemnity for sole fault as well as for active negligence of public agency indemnitee.	Public owner may not force subcontractor to indemnify or insure another party for that party's "active negligence or willful misconduct" for defects in the project's design provided to subcontractor or claims outside of subcontractor's work.
Colorado	Colo. Rev. Stat.	13-21-111.5	Bars indemnity for sole or partial fault.	
Connecticut	Conn. Gen. Stat.	52-572k	Bars indemnity for sole or partial fault.	
Delaware	Del. Code, title 6	2704	Bars indemnity for sole or partial fault.	Case law may close additional insured loophole under certain circumstances.
Florida	Fla. Stat.	725.06	Bars indemnity for sole or partial fault (public work).	
Georgia	Off. Code Ga.	13-8-2	Bars indemnity for sole fault, closes additional insured loophole.	Except obligations under workers' compensation insurance.

State	Code	Section	Summary*	Comments
Hawaii	Haw. Rev. Stat	431:10-222	Bars indemnity for sole fault.	Inapplicable to valid workers' compensation claims.
Idaho	Idaho Code	29-114	Bars indemnity for sole fault.	
Illinois	740 Ill. Comp. Stat.	35/1-3	Bars indemnity for sole or partial fault.	
Indiana	Ind. Code	26-2-5	Bars indemnity for sole fault.	
Iowa	Iowa Code	537 A.5	Bars indemnity for sole or partial fault.	
Kansas	Kansas Stat.	16-121	Bars indemnity for sole or partial fault.	Voids contractual requirements to indemnify or provide liability coverage to another person as an additional insured for that person's own negligence, acts or omissions, with exceptions. Nullifies contractual requirements to waive subrogation rights for losses covered by workers' compensation insurance, with exceptions.
Kentucky	Ky. Rev. Stat.	371.180	Bars indemnity for sole or partial fault.	Case law may close additional insured loophole.
Louisiana	La. Rev. Stat.	38:2216(G)	Bars indemnity for sole or partial fault, with exceptions.	Applies only to primes on public works contracts.
Maryland	Md. Code Cts. & Jd. Proc.	5-401	Bars indemnity for sole fault.	
Massachusetts	Ma. Gen. Laws, ch. 149	29C	Bars indemnity for sole fault, but indemnity standard has been lowered to something less than negligence or proximate causation after court ruling.	Case law has lowered the indemnification standard to less than negligence or proximate causation.

State	Code	Section	Summary*	Comments
Michigan	Mich. Comp. Laws	691-991	Bars indemnity for sole fault.	
Minnesota	Minn. Stat.	337	Bars indemnity for sole or partial fault.	Except owners may indemnify environmental liabilities.
Mississippi	Miss. Code	31-5-41	Bars indemnity for sole or partial fault.	
Missouri	Mo. Rev. Stat.	434.100	Bars indemnity for sole or partial fault.	Expressly permits additional insured.
Montana	Montana Code	28-2-2111	Bars indemnity for sole or partial fault, closes additional insured loophole.	Permits requiring a party to purchase a policy specific to the project.
Nebraska	Neb. Rev. Stat.	25-21, 187	Bars indemnity for sole or partial negligence.	Except for construction bonds or insurance contracts.
New Hampshire	N.H. Rev. Stat.	338-A:1, 338-A:2	Bars indemnity for sole or partial negligence.	
New Jersey	N.J. Stat.	2A:40A-1	Bars indemnity for sole fault, expressly inapplicable to insurance.	Not applicable to validity of insurance policy or workers' compensation issue.
New Mexico	N.M. Stat.	56-7-1	Bars indemnity for sole or partial fault, closes additional insured loophole.	
New York	N.Y. Gen. Oblig. Laws	5-322.1	Bars indemnity for sole or partial negligence.	Not applicable to insurance contract or workers' compensation agreement.
North Carolina	N.C. Gen. Stat.	22B-1	Bars indemnity for sole or partial negligence.	Not applicable to a public utility as an indemnitee or to contracts entered into by DOT.
Ohio	Ohio Rev. Code	2305.31	Bars indemnity for sole or partial negligence.	

State	Code	Section	Summary*	Comments
Oklahoma	Okla. Stat., tit. 15	221	Bars indemnity for sole or partial negligence, closes additional insured loophole.	
Oregon	Or. Rev. Stat.	30.140	Bars indemnity for sole or partial negligence, closes additional insured loophole.	
Rhode Island	R.I. Gen Laws	6-34-1	Bars indemnity for sole or partial fault, except for insurance or construction bonds.	
South Carolina	S.C. Code	32-2-10	Bars indemnity for sole negligence.	
South Dakota	S.D. Cod. Laws	56-3-18	Bars indemnity for sole negligence.	
Tennessee	Tenn Code	62-6-123	Bars indemnity for sole negligence.	
Texas	Texas Ins. Code	151	Bars indemnity for sole or partial negligence, closes additional insured loophole.	Inapplicable to employee claims, municipal or public works projects, and others.
Utah	Utah Code	13-8-1	Bars indemnity for sole or partial negligence, except pro rata apportionment of fault for owners.	Permits indemnity of owner.
Virginia	Va. Code	11-4-1	Bars indemnity for sole negligence.	
Washington	Wash. Rev. Code	4.24.115	Bars indemnity for sole or partial negligence.	
West Virginia	W. Va. Code	55-8-14	Bars indemnity for sole negligence.	

* This chart includes summary-level information regarding anti-indemnity laws, but it is necessary to review the full text of the statute to determine whether and how each law applies. Citations to relevant statutes are provided for ease of reference.

APPENDIX C: STATUTES OF REPOSE

STATUTES OF REPOSE			
State	**Code**	**Section**	**Repose Period***
Alabama	Ala. Code	6-5-221	13 years from substantial completion.
Alaska	Alaska Stat.	09.10.055; 09.10.054; 09.45.881 et seq.	10 years from substantial completion of construction or 10 years from last act that allegedly caused injury, death, or property damage.
Arizona	Ariz. Rev. Stat.	12-552	8 years from substantial completion.
Arkansas	Ark. Code Ann.	16-56-112	4 years from substantial completion for injury/death, 5 years for property damage.
California	Cal. Civ. Proc. Code	337.1, 337.15	4 years from substantial completion for patent defects, 10 years for latent defects; inapplicable to willful misconduct.
Colorado	Colo. Rev. Stat.	13-80-104	6 years from substantial completion.
Connecticut	Conn. Gen. Stat. Ann.	52-584a	7 years from substantial completion.
Delaware	Del. Code, tit. 10	8127	6 years from substantial completion.
District of Columbia	D.C. Code	12-310	10 years from substantial completion.
Florida	Fla. Stat.	95.11(3)(c)	4 years from latest of several specified events.
Georgia	Off. Code. Ga.	9-3-51	8 years from substantial completion.
Hawaii	Haw. Rev. Stat.	657-8	10 years from completion.
Idaho	Idaho Code	5-241	6 years from final completion.
Illinois	735 Ill. Comp. Stat.	5/13-214	10 years from improvement.

STATUTES OF REPOSE			
State	**Code**	**Section**	**Repose Period***
Indiana	Ind. Code	32-30-1-5	10 years from substantial completion or 12 years from delivery of plans and specifications (for design defects).
Iowa	Iowa Code	614.1 2A(a)	15 years from act alleged to cause the injury or death.
Kansas	Kan. Stat.	60-513	10 years from act alleged to cause the injury or death.
Kentucky	Ky. Rev. Stat.	413.135	7 years from substantial completion (ruled unconstitutional).
Louisiana	La. Rev. Stat.	9:2772	5-year preemptive period after acceptance.
Maine	Me. Rev. Stat., tit. 14	752-A	10 years from substantial completion or services rendered.
Maryland	Md. Code, Cts. & Jud. Proc.	5-108(b)	10 years from date improvement became available for intended use.
Massachusetts	Mass. Gen. Laws, ch. 260	2B	6 years from substantial completion and transfer of possession.
Michigan	Mich. Comp. Laws	600.5839	6 years after occupancy or acceptance; 10 years for gross negligence.
Minnesota	Min. Stat.	541.051	10 years from substantial completion.
Mississippi	Miss. Code	15-1-41	6 years from written acceptance or occupancy.
Missouri	Mo. Rev. Stat.	516.097	10 years from completion.
Montana	Mont. Code	27-2-208	10 years from completion.
Nebraska	Neb. Rev. Stat.	25-223	10 years from act giving rise to cause of action.
Nevada	Nev. Rev. Stat.	11.203, 11.204, and 11.205	10 (deficiencies defendant knew or should have known about), 8 (latent deficiencies), 6 (deficiencies apparent by reasonable inspection).

STATUTES OF REPOSE			
State	**Code**	**Section**	**Repose Period***
New Hampshire	N.H. Rev. Stat.	508:4-b	8 years from substantial completion.
New Jersey	N.J. Stat.	2A:14-1.1	10 years from completion.
New Mexico	N.M. Stat.	37-1-27	10 years from substantial completion.
New York	N.Y. C.P.L.R.	214-d	No statute of repose, but notice must be provided for claims more than 10 years after act giving rise to cause of action.
North Carolina	N.C. Gen. Stat.	1-50	6 years after last act or substantial completion.
North Dakota	N.D. Cent. Code	28-01-44	10 years after substantial completion.
Ohio	Ohio Rev. Code	2305.131	10 years from substantial completion.
Oklahoma	Okla. Stat. tit. 12	109	10 years from substantial completion.
Oregon	Or. Rev. Stat.	12.135	10 years from substantial completion.
Pennsylvania	42 Pa. Cons. Stat.	5536	12 years from substantial completion.
Rhode Island	R.I. Gen. Laws	9-1-29	10 years from substantial completion.
South Carolina	S.C. Code	15-3-640	8 years from substantial completion.
South Dakota	S.D. Cod. Laws	15-2A-3	10 years from substantial completion.
Tennessee	Tenn. Code	28-3-202	4 years from substantial completion.
Texas	Tex. Civ. Prac. & Rem. Code	16.008	10 years from substantial completion.
Utah	Utah Code	78-12-21.5	6 years from completion or abandonment for claims based on contract, 9 years for other claims.
Vermont	N/A	N/A	None.
Virginia	Va. Code	8.01-250	5 years after performance of construction or services.

STATUTES OF REPOSE			
State	**Code**	**Section**	**Repose Period***
Washington	Wash. Rev. Code	4.16.310 and 4.16.300	6 years from substantial completion.
West Virginia	W. Va. Code	55-2-6a	10 years from occupying or acceptance.
Wisconsin	Wis. Stat.	893.89	10 years from substantial completion.
Wyoming	Wyo. Stat.	1-3-111	10 years from substantial completion.

* Various conditions apply to the statutes of repose that are not included in this summary. For example, in some states the statute is subject to extension if the defect is not discovered until the last year of the repose period, or if the person charged had knowledge of the defect and failed to disclose it. In some states action must be brought within a relatively short period (1 to 2 years) after discovery.

APPENDIX D: CERTIFICATE OF MERIT STATUTES

Certificate of Merit Statutes		
State	**Code**	**Section**
Arizona	Ariz. Rev. Stat.	12-2601, 12-2602
California	Cal. Code Civ. Proc.	411.35
Colorado	Colo. Rev. Stat.	13-20-601, 13-20-602
Georgia	Off. Code Ga.	9-11-9.1
Hawaii	Haw. Rev. Stat.	672B
Kansas	Kan. Stat.	60-3501 to 60-3509
Maryland	Md. Code, Cts. & Jud. Proc.	3-2C-01, 3-2C-02
Minnesota	Minn. Stat.	544.42
Nevada	Nev. Rev. Stat.	40.6884, 40.6885
New Jersey	N.J. Stat.	2A:53A-26 to 2A:53A-29
Oregon	Or. Rev. Stat.	31.300
Pennsylvania	Pa. Cons. Stat.	Rule 1042.3
South Carolina	S.C. Code	15-36-100
Texas	Tex. Civ. Prac. & Rem. Code	150.001, 150.002

APPENDIX E: SOVEREIGN IMMUNITY STATUTES IN VARIOUS STATES

SOVEREIGN IMMUNITY		
State	**Code**	**Section**
Alabama	Alabama Constitution Ala. Code	Art. 1, §12 11-93-1 et seq. and 41-9-47 et seq.
Alaska	Alaska Stat.	09.50.250
Arizona	Ariz. Rev. Stat.	12-820 et seq.
Arkansas	Arkansas Constitution Ark. Stat.	Art. 5, § 20 19-10-201 et seq.
California	Cal. Gov. Code	810 et seq.
Colorado	Colo. Rev. Stat.	24-10-101 et seq.
Connecticut	Conn. Gen. Stat.	4-141 et seq.
Delaware	Del. Code Ann., tit. 10	4001 et seq.
Florida	Fla. Stat.	768.28 et seq.
Georgia	Georgia Constitution	Art. I, § 2-209
Hawaii	Haw. Rev. Stat.	662-21 et seq.
Idaho	Idaho Code	6-902 et seq.
Illinois	745 Ill. Comp. Stat. 705 Ill. Comp. Stat.	5/1 et seq. 505/1 et seq.
Indiana	Ind. Code	34-4-16.5-1 et seq.
Iowa	Iowa Code	669.1 et seq.
Kansas	Kan. Stat.	75-6101 et seq.
Kentucky	Ky. Rev. Stat.	44.070 et seq., 65.200 et seq.
Louisiana	Louisiana Constitution La. Rev. Stat.	Art. 12, § 10 13:5101 et seq.
Maine	Me. Rev. Stat., tit. 14	8101 et seq.
Maryland	Md. State Gov. Code Md. Cts. & Jud. Proc. Code	12-101 et seq. 5-401 et seq.

SOVEREIGN IMMUNITY		
State	**Code**	**Section**
Massachusetts	Mass. Gen. Laws, ch. 258 Mass Gen. Laws, ch. 81	1 et seq. 18
Michigan	Mich. Comp. Laws	691.1404 et seq.
Minnesota	Minn. Stat.	3.735 et seq.
Mississippi	Miss. Code	11-45-1 et seq.
Missouri	Mo. Rev. Stat.	537.600
Montana	Mont. Code	2-9-101 et seq.
Nebraska	Neb. Rev. Stat	81-8,209 et seq. and 23-2,410 et seq.
Nevada	Nev. Rev. Stat.	41.0305 et seq.
New Hampshire	N.H. Rev. Stat.	541-B:1 et seq.
New Jersey	N.J. Stat.	59:1-1 et seq.
New Mexico	N.M. Stat.	41-4-1 et seq.
New York	N.Y. Ct. Cl. Act	8
North Carolina	N.C. Gen. Stat.	143-291 et seq.
North Dakota	N.D. Cent. Code	32-12-01 et seq.
Ohio	Ohio Rev. Code	2743.01 et seq.
Oklahoma	Okla. Stat., tit. 51	151 et seq.
Oregon	Or. Rev. Stat.	30.260 et seq.
Pennsylvania	42 Pa. Cons. Stat.	8521 et seq.
Rhode Island	R.I. Gen. Laws	9-31-1 et seq.
South Carolina	S.C. Code Ann.	15-78-10 et seq.
South Dakota	S.D. Cod. Laws	3-21-1 et seq. and 21-32-1 et seq.
Tennessee	Tenn. Code	29-20-101 et seq.
Texas	Tex. Civ. Prac. & Rem. Code	101-001 et seq.
Utah	Utah Code	63-30-1 et seq.
Vermont	Vt. Stat., tit. 12 tit. 29	5601 et seq. 1403

SOVEREIGN IMMUNITY		
State	**Code**	**Section**
Virginia	Va. Code	8.01-195.3 et seq., 33.1-421, 15.1-1372.12
Washington	Wash. Rev. Code	4.92.090 et seq.
West Virginia	W. Va. Code	29-12-1 et seq.
Wisconsin	Wis. Stat.	893-80 et seq. and § 81.15
Wyoming	Wyo. Stat.	1-39-101 et seq.

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