UNITED STATES
CIVILIAN BOARD OF CONTRACT APPEALS

DENIED: March 20, 2026

CBCA 6987

STELLAR J CORPORATION,

Appellant,

v.

DEPARTMENT OF TRANSPORTATION,

Respondent.

Ryan W. Dumm and Ryan M. Gilchrist of Seyfarth Shaw LLP, Seattle, WA, counsel for Appellant.

Rayann L. Speakman, Office of the Chief Counsel, Federal Highway Administration, Department of Transportation, Vancouver, WA, counsel for Respondent.

Before Board Judges **GOODMAN**, **KULLBERG**, and **ZISCHKAU**.

GOODMAN, Board Judge.

On December 7, 2020, appellant, Stellar J Corporation (Stellar J), filed this appeal from a decision of a contracting officer of respondent, Department of Transportation, Federal Highway Administration (FHWA), denying appellant's certified claim. On November 30, 2023, the Board issued a decision denying appellant's motion for partial summary judgment and respondent's motion for summary judgment. *Stellar J Corp. v. Department of Transportation*, CBCA 6987, 24-1 BCA ¶ 38,469 (2023) (summary judgment decision). A hearing on the merits was held on December 9-10, 13, and 17-18, 2024. The parties filed post-hearing briefs on February 28, 2025, and reply briefs on March 31, 2025. We deny the appeal.

Background

I. The Contract and Dispute

This appeal arises from a construction contract (the contract) between appellant and respondent to construct improvements to the Wyeth Trailhead section of the Historic Columbia River Highway State Trail in Hood River County, Oregon. The scope of work included seven retaining walls, which appellant was required to design and construct, two of which were designated as Wall 1 (W1) and Wall 2 (W2). Appeal File, Section A, Tab 1.[1] The dispute involves W2.

The contract included construction drawings and plans prepared by CH2M, later known as Jacobs Engineering Group Inc. (Jacobs). Section A, Tab 2. Jacobs subcontracted with Cornforth Consultants, Inc. (Cornforth) to serve as geotechnical engineer of record for certain aspects of the project during construction.

II. Relevant Solicitation and Contract Provisions

A. Specifications and Schedule

The solicitation and the contract contained "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects," referred to as Federal Project 14 (FP-14), as well as special contract requirements that amended and supplemented the FP-14. Section A, Tab 1 at 210-417, Tab 3. In its introductory "Specifications Format" subsection, the FP-14 correlates the item numbers in a bid schedule with the applicable FP-14 requirements section: "The first three digits of the pay item number in the bid schedule identify the Section under which the work is performed." Section A, Tab 3 at 920 (FP-14 subsection 101.02).

Schedule A is the bid schedule incorporated into the contract (bid schedule), and each bid schedule page is marked with "CQ = Contract Quantity." Section A, Tab 1 at 37-48. The two items in the bid schedule associated with W2, and appellant's bid prices for each, are:

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[1] The appeal file is divided by sections that are then subdivided by tabs. Unless otherwise noted, record citations identify the section, tab, and, as applicable, Bates number(s). Citations to hearing testimony identify the witness, volume, and page, with each of the five hearing days designated as volumes 1 through 5, respectively.

Item No. 25501-1000, MECHANICALLY STABILIZED EARTH WALL, WELDED WIRE FACE[2]
Line A0860
Quantity: 37,503
Unit: SQFT [square feet (sq. ft.)] (CQ)
Unit Price: [$]22
Amount: [$]825,066

Item No. 25701-0200, CONTRACTOR FURNISHED MECHANICALLY STABILIZED EARTH WALL DESIGN, WALL W2
Line A0940
Quantity: All
Unit: LPSM (Lump Sum)
Unit Price: $4000
Amount: $4000

Section A, Tab 1 at 39.

The contract quantity of 37,503 sq. ft. under FP-14 section 255 for "Mechanically Stabilized Earth (MSE) Wall, Welded Wire Face," referenced above, is the sum of the wall surface square footage in drawing M.20 for W1 (2906 sq. ft) and W2 (34,597 sq. ft.). Section A, Tab 2 at 864. The 34,597 sq. ft. for W2 is the figure relevant to this dispute.

The bid schedule also included two additional items not related to the design and construction of W2 but relevant to resolving this appeal:[3]

Item No. 20801-0000, STRUCTURE EXCAVATION
Line A0600
Quantity: 3427

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[2] Section 255 pay items in the bid schedule are those items with 255 as the first three digits and whose work was governed by section 255 of the contract. Item number 25501-1000 is the section 255 pay item in the bid schedule relevant to the construction of W2. This contract quantity is referred to herein as "wall surface square footage."

[3] Appellant used these two items (Structure Excavation and Structural Backfill), and their unit-priced quantities, to calculate excavation and backfill costs in its request for equitable adjustment (REA) and certified claim. However, these items and their unit-priced quantities do not correlate with the construction of W2 but, instead, correspond with separate work under section 208, as denoted by the first three digits (208) of the item numbers.

Unit: CUYD [cubic yard] (CQ)
Unit Price: $100
Amount: [$]342,700

Item No. 20803-0000, STRUCTURAL BACKFILL
Line A0640
Quantity: 1,242
Unit: CUYD (CQ)
Unit Price: $105
Amount: [$]130,410

Section A, Tab 1 at 38.

B. Contract Quantity, Measurement, and Payment

In FP-14 subsection 109.02, Measurement Terms and Definitions, the contract defined "contract quantity" as:

> **Contract quantity**. *The quantity to be paid is the quantity listed in the bid schedule. The contract quantity will be adjusted for authorized changes that affect the quantity or for errors made in computing this quantity.* If there is evidence that a quantity specified as a contract quantity is incorrect, submit calculations, drawings, or other evidence indicating why the quantity is in error and request in writing that the quantity be adjusted.

Section A, Tab 3 at 964 (emphasis added).

FP-14 section 255, Mechanically-Stabilized Earth Walls, defined the section's work as "constructing mechanically-stabilized earth (MSE) walls." *Id*. at 1080. FP-14 subsection 255.07 (Measurement) required section 255 pay items to be measured as "listed in the bid schedule according to Subsection 109.02." With regard to wall surface square footage, this subsection stated: "When measuring mechanically-stabilized earth walls by the square foot (square meter)," the front face of the wall should be measured, excluding footings. *Id*. at 1082. This defined the method to measure wall surface square footage.

Payment terms for work under section 255 was set forth in FP-14 subsection 255.08 (Payment), as follows:

> The accepted quantities will be paid at the *contract price per unit* of measurement for the Section 255 pay item listed in the bid schedule. *Payment*

> *will be full compensation for the work* prescribed in the Section 255. See Subsection 109.05 [Scope of Payment].

Id. at 1083 (emphasis added).

Under the FP-14 General Requirements—Measurement and Payment section, Scope of Payment was defined as:

> Payment for contract work is provided, either directly or indirectly, under the pay items listed in the bid schedule.
>
> (a) **Direct payment**. Payment is provided directly under a pay item listed in the bid schedule when one of the following applies:
>
> (1) The work is measured in the [FP-14 subsection 255.07 (quoted above)] Measurement Subsection of the Section ordering the work and the bid schedule contains a pay item for the work from the Section ordering the work.
>
> (2) The Measurement Subsection of the Section ordering the work, references another Section for measuring the work and the bid schedule contains a pay item for the work from the referenced Section.
>
> (b) **Indirect payment**. Work for which direct payment is not provided is a subsidiary obligation of the Contractor. Payment for such work is indirectly included under other pay items listed in the bid schedule. This includes instances when the Section ordering the work references another Section for performing the work and the work is not referenced in the Measurement Subsection of the Section ordering the work.
>
> Compensation provided by the pay items included in the bid schedule is full payment for performing contract work in a complete and acceptable manner. Risk, loss, damage, or expense arising out of the nature or prosecution of the work is included in the compensation provided by the pay items.
>
> *Work measured and paid for under one pay item will not be paid for under other pay items*.

> The quantities listed in the bid schedule are approximate unless designated as a contract quantity. Limit pay quantities to the quantities staked, ordered, or otherwise authorized before performing the work. Payment will be made for the actual quantities of work performed and accepted or material furnished according to the contract. No payment will be made for work performed in excess of that staked, ordered, or otherwise authorized.

Id. at 968-69 (emphasis added).

In addition to the contract quantity and payment terms in the FP-14 above, the contract also contained Federal Acquisition Regulation (FAR) clause 52.211-18:

> **52.211-18 Variation in Estimated Quantity (Apr 1984)**
>
> *If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party.* The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an extension, the Contracting Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgment of the Contracting Officer, is justified.

Section A, Tab 1 at 88 (emphasis added).

C. Drawing M.20

Drawing M.20 included two tables, titled "Wall W1 QUANTITIES" and "Wall W2 QUANTITIES," each with two items. Section A, Tab 2 at 864. The W2 table contained the same item numbers as the bid schedule's W2-related items:

> Item No.: 25501-1000
> Item. Mechanically Stabilized Earth Wall, Welded Wire Face
> Quantity: 34597
> Unit: [sq. ft.]
> Notes: (1).
>
> Item No.: 25701–0200
> Item: Contractor Furnished Mechanically Stabilized Earth Wall Design, Wall W2
> Quantity: 1
> Unit: [lump sum]

Id; *see* Section A, Tab 1 at 39. "Notes (1)" for item 25501-1000 referred to the drawing's "Estimate Notes," which designated this item, reflecting the W2 wall surface square footage, as a "Contract Quantity." *Id.*

Drawing M.20 also included a table, titled "For Information Only Wall W2," which listed the following informational quantities: structure excavation (8270 cubic yards); granular backfill (2190 cubic yards); select granular backfill (14,460 cubic yards);[4] geotextile (7430 square yards); drain pipe (2290 linear feet); and topsoil (1580 cubic yards). *Id.*

With regard to the table in drawing M.20, appellant states:

> The table identified informational quantities for structure excavation, granular backfill, select granular backfill, geotextile, drain pipe, and topsoil. All of these elements were necessary to construct Wall W2. *None of these elements were separate pay items in the Contract bid schedule; they were included in the overall square footage of the face of MSE Walls W1 and W2*. . . . The Government included the table of quantities on Drawing No. M.20 to provide information to prospective bidders to develop a price for Walls W1 and W2.

Appellant's Statement of Undisputed Facts ¶¶ 21-22 (emphasis added).

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[4] In this appeal, appellant seeks compensation for three materials for which "for information only" quantities (FIOQ) were listed on drawing M.20: structure excavation, granular backfill, and select granular backfill. When discussing the actual quantities of these materials that appellant allegedly used to construct W2, we refer to them collectively as "excavation and backfill" (as constructed) or "the FIOQ materials."

III. Explanation of "For Information Only" Quantities (FIOQ)

According to Knud Martin, the FHWA project engineer who served as the Government's on-site representative, the FIOQ were placed in drawing M.20 so that the bidders could price the "incidental work"[5] within the unit prices bid for wall surface square footage. Testimony of Knud Martin (Martin Testimony), Vol. 3 at 21-24. This purpose is confirmed in the Government's Western Federal Lands Highway Division Estimating Handbook (Estimating Handbook).[6] *See* Appellant's Motion for Partial Summary Judgment (Appellant's Motion), Exhibit B, Estimating Handbook, attached to Declaration of Ryan W. Dumm (June 9, 2023). The introduction to this handbook states: "The objective of this manual is to provide guidance for developing estimates at the various milestones, selecting bid items and methods of measurement, rounding, and presenting quantities, and pricing item work." Estimating Handbook at 1. A chapter titled "For Information Only Quantities" reads in relevant part:

> **6.1 General**
>
> Many bid items require multiple materials and multiple steps to perform the full scope of the bid item. . . . In many situations, a contractor can use the information provided in the PS&E [plans, specifications, and estimate] to estimate their bid prices . . . .
>
> In some situations, the scope of work may be more unique, or the work and the material quantities associated with performing a bid item may not be readily apparent from the resources listed above. *In this case, the Designer needs to add information to the Plans to enable bidders to accurately estimate their price for performing the work.*
>
> . . . .

[5] Mr. Martin's testimony regarding pricing the FIOQ as "incidental" work refers to FP-14 subsection 109.05(b), which states: "Payment for such work is indirectly included under other pay items listed in the bid schedule." *See also* Section N, Tab 52-8 (internal email from appellant's first project manager stating that appellant's bid "[m]issed all 'incidental' work" for W2).

[6] The Estimating Handbook is not mentioned in the contract but contains information relevant to the contract's terms.

6.2 Do Not Measure for Payment

When "For Information Only" work/quantities are provided, that work is not measured for payment. This is addressed in Subsection 109.05(b) of the [FP-14] which states: ***Indirect payment****. Work for which direct payment is not provided is a subsidiary obligation of the Contractor. Payment of such work is indirectly included under other pay items listed in the bid schedule*.

. . . .

6.3 Examples

The examples below describe situations where "For Information Only" quantities have been provided in the Plans.

Example 1 – Mechanically Stabilized Earth Wall

The Repair Mather Memorial Slide Area project (WA NPS MORA 12(1)) contained Section 255 MSE Walls. *As shown in the table, MSE walls were measured and paid for by the square foot. In order to obtain a more accurate bid for the work, 'for information only' quantities were estimated and provided in the Plans. Note that the bid item number (Item 25501-0000) is only provided for the bid item shown in the tabulation of bid quantities and that indirect work items are labelled as "For Information Only" and contain no bid item numbers.*

[Table (illegible) omitted]

In some cases, an item listed in 'For Information Only' table will also appear as a bid item elsewhere in the Plans.[7] Possible examples for such items from the table above could be 'Excavation,' or 'Object Marker Post White Plastic.' This can cause confusion as to when this item is paid for and there is a risk that contractors may mistakenly assume the work will be paid for directly in all

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[7] In the solicitation and contract, the material for "for information only" quantities did not appear as either bid items or contract quantities to be paid. Reflective of this fact, when appellant priced its REA and certified claim for alleged actual quantities of excavation and backfill in excess of the FIOQ, it resorted to using unit prices bid for other materials that were not associated with W2.

> cases, and likewise the contractor may not cover their cost for the work listed in the 'For Information Only' table. See the "Do Not Measure for Payment" section above for additional guidance in this situation.

Id. at 73-76 (emphasis added in sections 6.1 & 6.3; emphasis in section 6.2 in original).

IV. Appellant's Bid and Contract Award

The average bid price submitted by the four other bidders for wall surface square footage was $65.25 per square foot. Appellant's bid price for wall surface square footage was $22 per square foot. Section A, Tab 1 at 39; Section J, Tab 24 at 5198. Appellant's first project manager, Clayton Thompson, testified that the Government requested that appellant confirm its bid after submission. Mr. Thompson reviewed appellant's bid documents and concluded that when appellant's estimators prepared its bid, the costs for the FIOQ shown in drawing M.20 had not been included in the unit price of $22 per square foot for the W2 wall surface square footage, which was identified and to be paid as a "contract quantity." He referred to this failure to include these costs as a "bid bust." Testimony of Clayton Thompson (Thompson Testimony), Vol. 1 at 234-35.

Mr. Thompson was not involved in the bidding process and does not recall who first identified the "bid bust." Thompson Testimony, Vol. 1 at 237.[8] After receiving the Government's bid confirmation request, Mr. Thompson sent an internal company email on November 28, 2017, in which he stated after reviewing the bidding documentation: "Bid Bust: Missed all 'incidental' work for wall 2 in the bid." Section N, Tab 52-8. Appellant's bid documentation, dated February 28, 2017, confirms that no costs were included in the bid price for wall surface square footage for W2 for the FIOQ. *See* Section O, Tab 53-5; Thompson Testimony, Vol. 1 at 234. Mr. Thompson admitted that appellant made a bid mistake but that it nevertheless intended to perform the work for the wall square footage price of $22 as bid:

> We're big boys. . . . [S]ometimes if we make a mistake we own it. And then in that scenario, if we put zero dollars and missed that, we would still go perform the work for the unit price that . . .we had on the table on the bid tab.

Thompson Testimony, Vol. 1 at 236.

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[8] The person(s) who prepared appellant's bid did not testify.

Leif Schei, who succeeded Mr. Thompson as project manager, was also employed by appellant at the time Mr. Thompson discovered the "bid bust." He testified that the estimators reviewed the bid with appellant's "president/owner" and determined that appellant could "still make" the bid price of $22 per square foot for wall surface square footage "work with the quantities that are shown" and "felt [appellant] would still be able to make a profit on the project. And so they decided to proceed with it." Testimony of Leif Schei (Schei Testimony), Vol. 3 at 191, 193.

After discovering and reviewing the "bid bust," in response to the Government's inquiry, appellant confirmed its bid without revising the unit price for wall surface square footage to include cost for the FIOQ, which Mr. Thompson's email characterized as "incidental work."[9] The contract was awarded on March 30, 2017. Section A, Tab 1 at 22. Therefore, in the bidding process, appellant did not use the FIOQ for their intended purpose: to price incidental work *within* a bidder's unit price of wall surface square footage, which was identified and to be priced as a "contract quantity."

V. W2 Design

After the contract was awarded, appellant subcontracted with Contech Engineered Solutions (Contech) to perform engineering and design work. Contech and/or its affiliate Keystone Retaining Wall Systems, LLC (Keystone) subcontracted with Golder Associates Inc. (Golder) to perform the engineering and design work (collectively referred to as appellant's design subcontractors). Appellant's Proposed Findings of Fact and Conclusions of Law (Mar. 3, 2025) (APFFCL) ¶ 41.

In addition to Mr. Thompson and Mr. Schei, appellant's project managers, and Knud Martin, the FHWA project engineer who served as the Government's onsite representative, the following individuals testified as to the design and construction of W2:

- Gary Heslin—a senior engineer with Cornforth Consultants, Inc. who was the geotechnical engineer responsible for the initial evaluation of W2, on behalf of the Government, during the Government's project development phase (i.e., before the construction contract was awarded to appellant).

[9] As noted previously, Mr. Martin also referred to pricing the FIOQ as "incidental work" pursuant to FP-14 subsection 109.05(b).

- Dan Tix—the director of technical services for Keystone during the project who was actively and continually engaged throughout the engineering and design work and submittal process with Keystone's subcontractor, Golder, during the design of Wall W2. *See* Testimony of Dan Tix (Tix Testimony), Vol. 1 at 9-10.

- Brian Willman—a Golder senior engineer (at the time of the project) and licensed geotechnical engineer who oversaw Golder's design work for W2. Testimony of Brian Willman (Willman Testimony), Vol. 2 at 16-17.

Mr. Schei testified that appellant would not preemptively design the wall before bidding, as it would only enter into subcontracts to design the wall after contract award. Schei Testimony, Vol. 3 at 179. With regard to reviewing the requirement to design W2 in the contract before bid, Mr. Thompson testified: "You never know a hundred percent because . . . we're not qualified as engineers. So we review it to the best of our knowledge, and then we submit for a review by others." Thompson Testimony, Vol. 2 at 230.

Mr. Martin testified that the FIOQ for excavation and backfill were included in drawing M.20 as minimum requirements for purposes of the design of W2. Martin Testimony, Vol. 3 at 29-31. Based upon the contractor's ultimate design for W2, there were many variables that would determine the actual quantities of the FIOQ materials of excavation and backfill used to construct W2. *Id*. at 44-45. These variables included length of reinforcements and loading of materials on top of the reinforcement. Also, based on the ultimate design, the quantities of excavation and backfill would not necessarily increase or decrease proportionally as the actual wall surface square footage increased or decreased from the contract quantity on the drawing. *Id* at 38-40. The actual quantities of excavation and backfill could also change based upon the contractor's means and methods of construction. *Id*. at 44-45.

Mr. Martin testified that the FIOQ in drawing M.20 were conditioned on the use of the minimum reinforcement lengths identified as 0.7H (representing a ratio of reinforcement length to wall height) on the contract drawings. Martin Testimony, Vol. 3 at 42-44; *see* Testimony of Gary Heslin (Heslin Testimony), Vol. 4 at 201. If the contractor increases the length of reinforcements in the wall, the quantities of excavation and backfill would increase. *Id*. at 47-48.

Appellant's design subcontractors also interpreted the reinforcement lengths as minimum requirements. Dan Tix, the director of technical services for Keystone, appellant's subcontractor, considered reinforcement lengths as minimum requirements for design purposes. Tix Testimony, Vol. 1 at 102. Mr. Willman of Golder testified that he was not

concerned with exceeding minimum requirements. He stated, "When you are given a specification, you are to meet or exceed that specification. You do not get rejected when you exceed the specification." Willman Testimony, Vol. 2 at 83-84.

Mr. Willman testified further that Golder's design role on the project was not related to volumes of materials (i.e., the FIOQ materials). *Id*. at 30. More specifically, Golder's contract scope did not include addressing the excavation or backfill volumes for Wall W2. *Id*. at 132. Rather, the overriding factor of Golder's work was to design a wall to "ensure[] that the public is safe." *Id*. at 40. As Golder's supervising engineer, Mr. Willman's "ultimate[] . . . threshold [was] to meet the requirements of life safety." *Id*. at 69.

Appellant's initial submittal of the W2 design was accepted by Mr. Martin for the Government. Submittal 255-01 (Jan. 14, 2018), Section G, Tab 11-1 at 4158; *see* Heslin Testimony, Vol. 4 at 192-93.

After reviewing the initial submittal, appellant's project manager, Mr. Thompson, realized that the reinforcement lengths as designed caused an increase in the excavation and backfill that exceeded the FIOQ on drawing M.20. He testified, "[Golder] didn't catch that. I caught that and brought it to the surface." Thompson Testimony, Vol. 2 at 254-255. Mr. Thompson brought it to Golder's attention after the initial submittal. Section N, Tab 52-23 at 9441. Ultimately, Mr. Thompson approved the reinforcement lengths in the design. Mr. Willman noted the approval in an email communication dated February 18, 2018, in which he stated: "Stellar J [project manager] . . . gave us thumbs up to go with the longer strap lengths." Section N, Tab 52-66.

Submittal 255-01a (Mar. 16, 2018) contained the final W2 design. *See* Section G, Tab 11-2 at 4328-29. Mr. Heslin reviewed appellant's final submittal and determined that it was acceptable. Heslin Testimony, Vol. 4 at 232-33, 238-39. On March 23, 2018, the Government marked Submittal 255-01a "accepted as noted" and added a comment, stating, "Wall #1&2 are Contractor designed walls and are contract quantities." Section G, Tab 11-2 at 4329.

VI. W2 Construction

During W2 construction, appellant did not obtain actual area or volume measurements of the FIOQ materials. *See* Schei Testimony, Vol. 3 at 265-266. After W2 construction was completed, appellant engaged Otak, Inc. (Otak) to conduct a survey of the constructed volume (actual quantities used) and later provide estimated quantities based on the contract plans, with Mr. Scott Nettleton of Otak in charge of these efforts. Testimony of Scott Nettleton (Nettleton Testimony), Vol. 4 at 6-7. Mr. Schei stated that it was not until Otak

performed the survey that appellant realized the actual quantities of excavation and backfill that were put in place. "The OTAK report was the first big eye opener." Schei Testimony, Vol. 3 at 215-16.

In addition to conducting a survey of actual quantities, Otak's analysis described what it alleged was an inaccurate calculation of the FIOQ in drawing M.20. The analysis referred to the FIOQ as "as bid" quantities.[10] Nettleton Testimony, Vol. 4 at 8, 29-30. Otak concluded that the Government's calculation of the FIOQ was not accurate, based upon the Government's design assumptions, and the FIOQ for these materials should have been greater. *See* Section I, Tab 23-3 at 5078 (citing Tab 1, memorandum from Scott Nettleton (Feb. 28, 2019)). Otak's analysis also calculated alleged "as built" quantities used in W2 construction. *See id.* at 5079.

From February 7 through June 5, 2019, the parties exchanged detailed correspondence regarding appellant's design and construction of W2. In this correspondence, appellant asserted that, although it ultimately designed and constructed W2, it was entitled to additional costs for excavation and backfill in excess of the FIOQ in drawing M.20. Section I, Tabs 23-1 to 23-6.

In a letter dated March 27, 2019, the Government responded to Otak's allegation concerning the inaccuracy of the FIOQ, stating that it had recalculated these quantities based on the original design assumptions and the quantities should have been three to nine percent *less* than those included in drawing M.20. Section I, Tab 23-4 at 5111.

VII. Appellant's REA

By letter dated July 22, 2019, appellant submitted an REA, quoting FP-14 subsection 109.02 of the contract and stating:

> Stellar J argues that the justification standard in using Specification 109.2b should not be because the "As Bid"[11] quantity is unattainable, but rather, because the "As Bid" quantity is not an accurate quantification of the scope of work that was needed to build the Wall #2 in conformance to the final design;

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[10] By referring to the FIOQ as "as bid" quantities, Otak apparently was not aware of appellant's "bid bust," i.e., that appellant had not included the FIOQ in its bid price for the wall surface square footage of W2.

[11] Appellant, like Otak, refers to the FIOQ as the "as bid" quantities, even though it did not include costs for the FIOQ in its bid price.

> the final design being that design stamped by the approved 3rd party engineer and approved for construction by the Owner. As the contractor paying for the changes to the scope of work in both additional time and money, Stellar J is damaged because of these changes and is owed an equitable adjustment to the contract for these unforeseeable additional costs and time to perform the work.
>
> . . . .
>
> Stellar J hired Otak Engineers to quantify and to compare the quantities yielded from the "As Bid" vs. "As Built" designs for Wall #2 using the digitized topography provided by the Owner.
>
> Otak's analysis quantified the wall face surface area increased by 4% as compared to the wall face surface area defined in the bid schedule. Further, Otak's analysis quantified that the volume of materials to be excavated increased by 98% and that the volume of structural backfill needed to construct Wall #2 increased by 52%.

Section I, Tab 23-7 at 5125-26 (footnotes omitted).

In the REA, appellant calculated these increases based on the FIOQ listed in the W2 quantities table in drawing M.20, which it describes as the "as bid" quantities, despite not having incorporated these quantities into its bid price for wall surface square footage (labeled as "Wall Face Area" in the REA). Appellant calculated the "as bid" and "as built" quantities as follows:

	As Bid (yd^3)	As Built (yd^3)	Increased Quantity	% Increase
Excavation	8240[12]	16,284	8044	98%

[12] This amount of 8240 appears to be erroneous, as the FIOQ for structure excavation in drawing M.20 were 8270. The REA's increased quantity of 8044 for excavation therefore also appears to be overstated by thirty square yards. This apparent error appears to have been corrected in the certified claim, which alleges an increased quantity of 8014, instead of 8044.

Total Granular Structural Backfill + Total Select Granular Structural Backfill	16,650[13]	25,280	8630	52%
Wall Face Area	34,597[ft^2]	36,008[ft^2]	1,411	4%

Id at 5126.

As the result of these alleged increased quantities, appellant calculated its equitable adjustment as follows:

	Increased Quantity [Schedule A]	Cost Reference	Bid Price ($/unit)	Extended Total
Excavation	8,044	20801-0000	[$]100	[$]804,400
Total Granular Structural Backfill + Total Select Granular Structural Backfill	8,630	20803-0000	[$]105	[$]906,150
Wall Face Area	1,411	25501-4000	[$]22	[$]31,042
Total Request for Equitable Compensation				$1,741,592

Id.

Respondent, by letter dated August 26, 2019, responded to the REA, stating it was "not in agreement with the claimed additional quantities for excavation and backfill" but would issue a contract modification for the 1411 sq. ft wall face area increase:

> [T]here has been an increase in the area of vertical wall face on Wall 2. The additional wall face amounts to an increase of 1,411 square feet. Per FP-14 Section 255.07 for pay item 25501-1000, an adjustment is warranted for this

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13 This amount of 16,650 is the total of the FIOQ for granular backfill (2190) and select granular backfill (14,460) in drawing M.20.

> additional 1,411 square feet. As this is a contract quantity pay item, a contract modification will be issued to account for the additional face area of the structure.

Section I, Tab 23-8.

VIII. Appellant's Certified Claim

On July 8, 2020, appellant submitted to the contracting officer a certified claim pursuant to the Contract Disputes Act (CDA), 41 U.S.C. §§ 7101–7109 (2018), in the amount of $1,707,550, seeking alleged additional costs incurred for the construction of W2. In the certified claim, appellant sought $801,400 for additional structural excavation (referred to as "excavation" in the REA) of 8014 cubic yards (at a unit cost of $100) in line A0600 and $906,150 for additional structural backfill (referred to as "Total Granular Structural Backfill + Total Select Granular Structural Backfill" in the REA) of 8630 cubic yards (at a unit cost of $105) in line item A0640. Section C, Tab 6 at 3510-11, 3534.[14]

After the summary judgment decision was issued, appellant advised the Board:

> Stellar J's certified claim first utilized the contract's existing unit prices for excavation, backfill, and structural backfill *from other elements of the Project*.

Appellant's Letter to the Board (Apr. 16, 2024) (Appellant's Letter to the Board) (emphasis added).

Appellant, therefore, acknowledged that the unit prices used to calculate alleged quantum for the quantities of excavation, backfill, and structural backfill in the REA and the certified claim were unit prices for contract quantities listed in the bid schedule to be paid for work associated with other elements of the work, *not for W2*. These were unit prices for item number 20801-0000, Structure Excavation, and item number 20803-0000, Structural Backfill, for construction of work listed in section 208 of the specifications—Structure Excavation and Backfill of Major Structures, again, *not for W2*, to which section 255 applied.

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[14] The total claim amount differs from that of the REA because the correct FIOQ of 8270 cubic yards are used to calculate the increase for excavation of 8014 cubic yards, and no claim is made for an increase in wall surface square footage, despite the Government's earlier offer to compensate appellant for this increase in contract quantity. As noted below, the contracting officer retracted this offer in the decision denying the claim.

IX. Contracting Officer's Decision

On December 2, 2020, the contracting officer issued a decision denying the claim and rescinding the previous offer to compensate appellant for the increase in wall surface square footage, stating in part:

> Wall W2 Quantities
>
> . . . .
>
> In regard to the measurement of the wall quantity installed, the contract designated the bid item for Wall W2 ([item number] 25501-1000) as a Contract Quantity. FP-14 Subsection 109.02(b) defines a Contract Quantity as follows: "The quantity to be paid is the quantity listed in the bid schedule. The contract quantity will be adjusted for authorized changes that affect the quantity or for errors made in computing this quantity. If there is evidence that a quantity specified as a contract quantity is incorrect, submit calculations, drawings, or other evidence indicating why the quantity is in error and request in writing that the quantity be adjusted." In the case of Wall W2, no changes which affected the bid quantity were authorized by FHWA, and no errors were made in calculating the designed quantities listed in the contract. The additional quantity of the face of wall designed and constructed by Stellar J for Wall W2, as shown in Submittal 255-01a, was not required in the contract, and was done to increase the efficiency of construction.* Further, FHWA's comments provided to Stellar J on the approved Wall W2 design submittal specifically reminded Stellar J that the Wall W2 quantity was a Contract Quantity. Therefore, Stellar J is not due any payment for additional wall face quantity in excess of the Contract Quantity amount shown in the contract plan drawings.
>
> Although FHWA's August 26, 2019 letter indicated that an adjustment was due to Stellar J for the additional quantity of the face of wall installed, the project staff has informed me that this position provided by FHWA at the time was specifically intended to facilitate settlement negotiations, and to demonstrate to Stellar J that the Government was willing to compromise. As outlined above, the additional quantity of the face of wall installed was due to Stellar J's decisions related to design and construction of the wall. Accordingly, this Contracting Officer's Decision serves to provide the final analysis on the Government's behalf and to resolve the inconsistency of entitlement determination.

> * Pay Item 25501-1000 Mechanically Stabilized Earth Wall, Welded Wire Face is measured by the Square Foot (SQFT) in the vertical plane.

Section D, Tab 7 at 4014-15.

X. Appellant's Revised Quantum

After the contracting officer issued the decision, appellant engaged the Sutor Group (Sutor) to revise the quantum of its claim. Sutor produced an expert report dated February 3, 2023, which was prepared by Gary Moorehead. According to the report, Mr. Moorehead had "been engaged to establish the additional costs . . . incurred for installation of additional quantities associated with [W2]." Section K, Tab 27 at 3 (pdf page citation). The total quantum was revised from $1,707,550 in the certified claim to $796,888 in the expert report. *Id*.[15] Alleged actual material, labor, and equipment costs were used to price the FIOQ materials in excess of the FIOQ in drawing M.20. *Id*. at 6-11 (pdf page citation).

Mr. Moorhead's resume states that he has a bachelor's degree in accounting, is a certified public accountant, and has experience in pricing construction claims, change orders, delay claims, and quantification of other issues relating to construction. The resume states

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[15] Appellant filed its motion for partial summary judgment on June 9, 2023. Appellant's brief in opposition to the Government's motion for summary judgment, which was filed on June 30, 2023, states:

> Stellar J's certified claim first utilized the Contract's existing unit prices for excavation, backfill, and structural backfill from other elements of the Project. See [Statement of Undisputed Material Facts] ¶ 68. As part of this litigation, Stellar J engaged a forensic accountant to evaluate Stellar J's actual incremental cost increases arising directly from the additional quantities of work required to install Wall W2. *See* Dumm Decl. ¶ 10. Stellar J is seeking its actual additional costs attributable to the changes, plus interest and attorneys' fees pursuant to the Equal Access to Justice Act.

Opposition at 13. Dumm's declaration also referenced the report from appellant's forensic accountant and quantum expert, Mr. Moorehead. Dumm Declaration ¶ 10. However, appellant did not state in its opposition brief (or in the Dumm declaration) that quantum had been reduced. Moreover, appellant did not include this expert report in the appeal file until after the Board's decision on the parties' motions for summary judgment and after being directed to do so by the presiding judge.

further that he is "[f]amiliar with entitlement issues relating to differing site conditions, defective specifications, work suspension, work acceleration, constructive changes, and changes in work sequence." *Id.* at 81 (pdf page citation).

The expert report stated:

> The bid schedule for the Project allowed for SJC to be paid by the square foot (SF) of MSE wall face installed. Therefore, SJC receives more compensation as the overall face of the wall increases. *Being paid by the SF of face assumes that the excavation and backfill behind the face of the wall increases linearly with the face of wall increase.*[16] *However, if the excavation and backfill behind the face of the wall changes disproportionally, or to a greater degree, as to the face, the compensation by the SF does not adequately cover the contractor's costs. The Wall 2 excavation and backfill quantities grew at a disproportionate rate as compared to the face of the wall.*[17]
>
> The Contract drawings provided quantities for the excavation and backfill scope of work. However, the final design of Wall 2 required greater excavation and backfill quantities than the Contract drawings indicated.

Id. at 3 (pdf page citation) (emphasis added).

XI. Testimony Concerning Design Methods and Choices

A considerable portion of the hearing and post-hearing briefing was devoted to testimony about appellant's design subcontractors' design choices during the W2 design. Appellant asserted that respondent's personnel had pre-bid knowledge of information that was withheld from appellant that would have allowed for a different design methodology. Respondent, in turn, challenged the expertise of appellant's design subcontractors.

Respondent's expert, Stanley Boyle, a senior vice president of Shannon and Wilson, Inc. and a geotechnical engineer, concluded that W2 could have been designed as an MSE wall with reinforcement lengths of 0.7H or 8 feet. Section X, Tab 25 (Boyle Report)

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[16] Mr. Moorhead is not an engineer, and his resume does not state qualifications that would support his ability to reach this conclusion.

[17] Mr. Moorhead does not take into account whether the contractor's cost "would have been covered" if not for appellant's "bid bust" of not including the cost of the FIOQ in its wall footage square footage unit price.

at 5-7, 9, 23-38; *see* Testimony of Stanley Boyle (Boyle Testimony), Vol. 5 at 57-58. He also testified that W2 could have been designed as a reinforced soil slope (RSS) wall with reinforcement lengths of 0.7H or 8 feet, whichever was greater. Boyle Testimony, Vol. 5 at 107-109; Boyle Report at 54-57. Mr. Boyle's testimony and report conclude that—had appellant's design subcontractors possessed sufficient experience and expertise—appellant could have designed and constructed W2 without actually exceeding the FIOQ.

This testimony, detailing the choice of design methodology, the challenges of using design software, what might have been done differently, and of mutual fault-finding as to the abilities of all involved, was not relevant to the resolution of the appeal. Appellant's final design was accepted by the Government as meeting the contract requirements. Heslin Testimony, Vol. 4 at 232-33, 238-39. As noted earlier, on March 23, 2018, the Government marked Submittal 255-01a "accepted as noted" and added a comment, which stated that "Wall #1&2 are Contractor designed walls and are contract quantities." Section G, Tab 11-2 at 4328-29.

XII. Procedural History Before the Hearing on the Merits

In its motion for partial summary judgment, appellant requested that the Board decide five issues. *Stellar J*, 24-1 BCA at 186,987 n.9. In its motion, appellant stated that "[n]one of the relief requested by Stellar J will wholly adjudicate or dispose of a claim or defense in the case, but this relief will streamline the issues for trial and move the parties closer to a negotiated resolution." *Id.* at 186,986. On November 30, 2023, the Board denied appellant's motion for partial summary judgment and, for reasons stated in the decision, declined to address the issues raised by appellant. In the same decision, the Board denied respondent's motion for summary judgment. *Id.*

On December 1, 2023, the Board issued a pre-hearing order scheduling a hearing on the merits to commence on February 1, 2024, as to "threshold issues of law and fact not addressed in the parties' previous motions for summary judgment, and identified in the [summary judgment decision]." Board's Prehearing Order (Dec. 1, 2023) at 1. The hearing was rescheduled to begin on February 27, 2024, at the parties' request.

On January 24, 2024, the presiding judge held a status conference at the request of counsel, during which the parties agreed to submit, on or before February 15, 2024, the stipulations required by the pre-hearing order. Counsel stated that their goal was to submit stipulations that they believed would allow the Board to resolve the threshold issues on the written record, without an oral hearing. The parties were directed to include in their submissions a list of issues to be resolved after the threshold issues were resolved. The

parties were not able to agree to stipulations concerning the threshold issues, and a hearing on the merits was held in December 2024 with post-hearing briefing thereafter.

Discussion

I. Resolution of the Threshold Issues Identified in the Summary Judgment Decision

In its certified claim, appellant sought additional compensation for quantities used in the construction of W2 in excess of the FIOQ designated in drawing M.20 for excavation and backfill. In its summary judgment decision, the Board stated:

> The parties' motions do not address two threshold issues of law—(1) for which contract quantities does the contract allow compensation, i.e., should appellant be compensated based on wall surface square footage (which is designated as a contract quantity on Schedule A and drawing M.20) or, instead, on the "for information only" quantities on drawing M.20 (which appellant relied on in its certified claim and in this appeal); and (2) what term(s) in the contract control this determination? Depending on how these legal issues are resolved, an issue of material fact would remain in dispute—the calculation of the actual quantity or quantities for which the contract allows compensation.

Stellar J, 24-1 BCA at 186,985.

These issues are resolved here. The bid schedule in the solicitation and contract contained bid items that are designated as CQ (contract quantity for payment) and others not so designated. There were no items in the bid schedule for the FIOQ of excavation and backfill listed in drawing M.20, the materials for which appellant seeks additional compensation.

As noted earlier, wall surface square footage is designated as a contract quantity in the bid schedule and drawing M.20. The contract quantity of 37,503 sq. ft. for "Mechanically Stabilized Earth Wall, Welded Wire Face" in the bid schedule, for which appellant bid the unit price of $22 per square foot, is the total contract quantity of the square footage designated in the estimate note in drawing M.20: 2906 sq. ft. for W1 and 34,597 sq. ft. for W2. FP-14 subsection 109.02(b) defined "contract quantity" as "[t]he quantity *to be paid* is the quantity listed in the bid schedule," and this provision allowed for adjustments in *contract quantities* as the result of authorized changes or errors made in computing *these quantities*. Section A, Tab 3 at 964 (emphasis added). FP-14 subsection 109.05 defined the scope of payment and described when a pay item in the bid schedule is paid directly or indirectly, depending on whether the measurement of work to be performed is defined in a

contract section. Section 109.05(b) states that "[w]ork measured and paid for under one pay item *will not be paid for* under other pay items." *Id.* at 969 (emphasis added).

Also, as previously noted, FP-14 subsection 255.07 provided that MSE walls were to be measured by the square foot and along the front face of the wall, excluding footings. As W2 was to be *measured and paid for* by wall surface square footage, the FIOQ were not items to be paid for directly by a unit price or otherwise. Rather, the costs of these quantities are subsumed within the unit price that appellant bid for the contract quantity for wall surface square footage and paid for indirectly by payment of that contract quantity, pursuant to FP-14 subsection 109.05(b), which reads, in part, "Payment for such work is indirectly included under other pay items listed in the bid schedule." This provision further stated that "[c]ompensation provided by the pay items included in the bid schedule is full payment for performing contract work in a complete and acceptable manner."

This situation is described in the Estimating Handbook:

> When "For Information Only" work/quantities are provided, that work is not measured for payment. This is addressed in Subsection 109.05(b) of the FP [Federal Project-14] which states: ***Indirect payment***. *Work for which direct payment is not provided is a subsidiary obligation of the Contractor. Payment of such work is indirectly included under other pay items listed in the bid schedule*.

Estimating Handbook at 74.

The FIOQ for excavation and backfill in drawing M.20 for W2 are listed in greater quantities than the similarly named items, structure excavation and structural backfill, which were designated as contract quantities in the bid schedule for work not associated with W2. As noted in the summary judgment decision, "[t]his creat[ed] an issue of material fact in dispute as to whether the unit prices and quantities of the two items on Schedule A [the bid schedule] designated as contract quantities were intended to be used for the bidding and construction of W2 or other structures." *Stellar J*, 24-1 BCA at 189,685.

To price the FIOQ of excavation and backfill in its REA and certified claim, appellant used unit prices of the similar items designated for work not associated with W2 in the bid schedule but for work associated with section 208 of the contract, as noted by that three-digit prefix in the bid schedule. The FIOQ materials were not listed in the bid schedule as unit-priced items for payment to construct W2. Appellant acknowledges this, as it stated regarding the FIOQ for W1 and W2 in drawing M.20, "None of these elements were separate pay items in the Contract bid schedule; they were included in the overall square footage of

the face of MSE Walls W1 and W2." Appellant's Statement of Undisputed Facts ¶ 21. After the summary judgment decision was issued, appellant again advised the Board that the "certified claim first utilized the Contract's existing unit prices for excavation, backfill, and structural backfill from *other elements of the Project*." Appellant's Letter to the Board (emphasis added).[18]

As the FIOQ of structure excavation, granular backfill, and select granular backfill were not contract quantities included as pay items in the bid schedule, they were not items to be paid for directly, but indirectly, as they were to be included in the unit price for wall surface square footage. The wall surface square footage was the contract quantity to be paid for directly.

The Estimating Handbook describes this situation:

> Example 1 . . .
>
> *As shown in the table, MSE walls were measured and paid for by the square foot. In order to obtain a more accurate bid for the work, 'for information only' quantities were estimated and provided in the Plans. Note that the bid item number (Item 25501-0000) is only provided for the bid item shown in the tabulation of bid quantities and that indirect work items are labelled [sic] as "For Information Only" and contain no bid item numbers.*

Estimating Handbook at 75 (emphasis added).

Appellant offers the following additional argument to justify entitlement to compensation for its actual quantities exceeding the FIOQ:

> [T]he Contract also affords a mechanism to the contractor to address errors in a Contract Quantity like Bid Item 25501-1000. See Rule 4 File, Tab 3, pg. 46, § 109.02. . . . While the total wall face quantity did not grow significantly, the

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[18] In its partial summary judgment briefing, appellant stated that its claim amount had been revised but did not state whether the quantum increased or decreased. Appellant only submitted the report with the repriced claim after the Board issued its summary judgment decision and the presiding judge directed appellant to do so. Mr. Moorhead's report, dated February 3, 2023, already contained a revised claim amount of $796,888 (without using the unit prices for the other work), in lieu of appellant's $1,707,550 initial certified claim.

> reinforcement behind the wall (and associated excavation and backfill) did change significantly to construct the approved design for Wall W2. The change in quantities behind the wall *was not directly proportional to a change in surface area of the wall face*. Therefore, an adjustment of the Contract Quantity under Section 109.02 of the Standard Specifications due to error must necessarily encompass the change in quantities behind the wall as well. Otherwise, the purpose and intent of the adjustment provision in Section 109.02 would be rendered meaningless, and the contractor would be denied relief despite the clear error embedded in the Government's Contract Quantity.

APFFCL ¶¶ 193-94 (emphasis added).

This argument lacks merit. As the wall surface square footage is the only contract quantity to be paid, pursuant to FP-14 subsection 255.07, appellant's argument is defeated by FP-14 subsection 109.05(b) because the cost of the quantities "behind the wall," as appellant calls FIOQ materials, are paid for indirectly in the unit price of the wall surface square footage. Therefore, appellant is not entitled to "the change in quantities behind the wall [that were] not directly proportional to a change in surface area of the wall face."

There is also no support for an expectation that the FIOQ materials would increase directly proportional to an increase in wall surface square footage. As a factual matter, the information in appellant's REA demonstrates that the alleged wall surface square footage was four percent greater than the contract quantity bid, while the FIOQ materials allegedly increased substantially, and not directly proportional, to the increase in wall surface square footage.

The contract does anticipate the possibility of an increase in the W2 wall surface square footage, as the result of the design to be accomplished, and provides a mechanism to compensate for the increase in square footage through the Variation in Estimated Quantity clause. Compensation for an increase in the wall surface square footage pursuant to this clause would compensate for the increase in FIOQ materials if priced within the unit price, which appellant did not. However, because the wall surface square footage of W2 only exceeded four percent of the contract quantity bid, this was not within the fifteen-percent threshold for relief pursuant to the Variation in Estimated Quantity clause.

II. Resolution of Other Issues Raised During the Hearing on the Merits

During the hearing on the merits and subsequent briefing, appellant raised various legal theories to further justify entitlement. The gravamen of appellant's claim is that the inclusion of the FIOQ in drawing M.20 assured the contractor that it would be able to design

and construct W2 without exceeding those quantities. Appellant has asserted the following legal theories to support its claim: (1) equitable adjustment for inaccurate FIOQ, APFFCL ¶¶ 156-192; (2) equitable adjustment for error in contract quantity under FP-14 subsection 109.02, *id.* ¶¶ 193-95;[19] (3) constructive change and defective specifications, *id.* ¶¶ 196-211; (4) superior knowledge, *id*. ¶¶ 212-19; (5) failure to cooperate and breach of fair dealing, *id*. ¶¶ 220-25; and (6) cardinal change, *id.* ¶¶ 226-28.

As discussed below, these legal theories offer no relief when viewed in the context of appellant's actions during bidding, design, construction, post-construction, and pricing of its REA and claim. Of significance, the "bid bust" and appellant's design subcontractors' consideration of the FIOQ as minimum requirements were in the record during the summary judgment proceedings but only became apparent during the hearing testimony.

A. Appellant's Bid for W2

The construction of W2 was a contract quantity to be paid for by the unit-priced contract quantity of wall surface square footage, for which appellant bid $22 per square foot. The FIOQ materials listed in drawing M.20 were not identified as contract quantities or otherwise listed in the bid schedule. The costs of these materials were to be included in the unit price for the contract quantity of wall surface square footage of W2 and paid for indirectly by payment for the contract quantity, pursuant to FP-14 subsection 109.05(b).

Mr. Martin, the Government's project manager, testified that the FIOQ were placed in the drawing so that the bidders could price this "incidental" work within the unit price for wall surface square footage. However, appellant's personnel who prepared its bid failed to use the FIOQ for their intended purpose—to include the price of the FIOQ materials in the unit-priced bid, resulting in a unit bid price for wall surface square footage much lower than other bidders.

Appellant's project manager, Mr. Thompson, testified that after appellant submitted its bid, the Government requested that appellant confirm its bid before award. Apparently, the Government made this request as other bidders averaged more than three times the bid price for the square footage of the wall. After reviewing appellant's bid submission, Mr. Thompson and Mr. Schei, appellant's other project manager, realized that the person or persons who prepared the bid did not include any costs for the FIOQ in the bid price of $22 per square foot for the contract quantity/pay item of wall surface square footage of W2. According to Mr. Schei, appellant's personnel determined it could "still make" the numbers

[19] The resolution of this issue is addressed in the previous section.

work and "make a profit," despite what it termed as a "bid bust," and confirmed its bid. Therefore, when appellant realized its failure to use the FIOQ to price the contract quantity of wall surface square footage, it decided nevertheless to confirm its bid without including any costs of the FIOQ in the unit price it bid for wall surface square footage.

Appellant asserts entitlement to an equitable adjustment because the FIOQ were allegedly inaccurate:

> There is a "line of precedent which examines defects in contract documents which mislead and cause unexpected increases in the contractor's costs, and this line of precedent might be considered to identify a special subset of defective plans and specifications cases." *Magus Pac[ific] Corp. v. United States*, 133 Fed. Cl. 640, 677 (2017). . . . These cases are sometimes referred to as "inaccurate estimate" cases. *Id*. The cases can take varying forms, but in relevant authority an equitable adjustment is warranted when an inaccurate estimate in a solicitation "misled a bidder into submitting an excessively low bid." *Id.*

APFFCL ¶¶ 156-57.

The factual premise of *Magus*, that a contractor was misled by inaccurate information, is not present here. Appellant cannot assert that the FIOQ were an "inaccurate estimate" that "misled" it into submitting an excessively low bid because appellant did not include the costs of the FIOQ materials when preparing its bid for W2 and did not revise its bid to include the cost of the FIOQ materials when it discovered its "bid bust."

Appellant's personnel who prepared the bid did not testify. We could not determine if those who prepared the bid intentionally or mistakenly did not include the costs of the FIOQ in the unit price that was bid for wall surface square footage. Any allegation that appellant relied upon the FIOQ when preparing the bid, despite its alleged bid mistake, is not persuasive. *See, e.g.*, *Dravo Corp.*, ENG BCA 3901, 80-2 BCA ¶ 14,757, at 72,849.

B. Appellant's W2 Design

The solicitation and contract did not contain the final design for W2. The contract required W2 to be designed and built by the contractor after award. As appellant intended to hire a design subcontractor if awarded the contract, appellant did not have a design when it decided to assume the risk of its "bid bust." Mr. Schei, appellant's project manager, testified that appellant did not preemptively attempt to design W2 or the other walls in the contract during the bid process, as it contemplated executing subcontracts for that work after

contract award. Appellant initiated design work after award through its design subcontractors, Keystone and Golder.

As mentioned previously, while the contract quantity for wall surface square footage of W2 in the bid schedule was stated as a fixed quantity, there was no requirement that the ultimate design was restricted to this quantity, as the contract contained the Variation in Estimated Quantity clause, which provides for an equitable adjustment for variations in unit-priced estimated quantities that exceed fifteen percent.

The Government's project manager, Mr. Martin, testified that the FIOQ stated in drawing M.20 were minimum quantities. The actual quantities would result from many variables that would be determined by engineering choices during design, including the length of reinforcements in the wall, the loading on top of the reinforcements, and the contractor's means and methods of performance. As an increase in the reinforcement length would result in an increase in the quantities for excavation and backfill, but not necessarily in proportion to the increase in actual wall surface square footage, it was apparent that the designer could expect that the FIOQ would exceed those quantities stated on the drawings as reinforcement lengths increased.

Appellant's design subcontractors did not consider the FIOQ as a design limit or a guarantee that W2 could be designed using the FIOQ. Rather, appellant's design subcontractors considered the FIOQ and reinforcement lengths, which affected these quantities, as minimum requirements to be exceeded if necessary while designing a safe wall, which was their primary concern. Mr. Tix, the director of technical services for Keystone, testified that he, like the Government's project manager, considered items such as the FIOQ and the length of the reinforcements as minimum requirements that could be exceeded in the final design.

Thus, both appellant and respondent interpreted the FIOQ and reinforcement lengths as minimum requirements, with no guarantee that the final design would be limited to these quantities or lengths. The FIOQ were therefore not considered by either party to be a warranty that W2 would be designed and constructed by only using those quantities. "The doctrine of concurrent interpretation, or contemporaneous construction, holds that great, if not controlling, weight should be given to the parties' actions before a dispute arises in order to interpret a contract." *ServiTodo LLC v. Department of Health and Human Services*, CBCA 5524, 17-1 BCA ¶ 36,672, at 178,571 (citing *Saul Subsidiary II Ltd. Partnership v. General Services Administration*, GSBCA 13544, et al., 98-2 BCA ¶ 29,871, at 147,861).

During the design of W2, Keystone's subcontractor Golder did not take into account the increase in the amount of the FIOQ materials that resulted as the length of the

reinforcements in the design exceeded the minimum. Mr. Willman, Golder's senior engineer overseeing the design, testified that Golder's role was not to focus on volumes of material (i.e., the FIOQ materials). Mr. Willman was not concerned if the minimum requirements of the contract were exceeded. His concern was whether the design produced a safe wall.

When Golder's first design submittal contained reinforcements that exceeded the minimum length, Mr. Thompson advised Golder that the reinforcement lengths were causing an increase in the FIOQ materials of excavation and backfill. Mr. Thompson raised the issue with Golder despite that fact that the Government had already accepted the first design submittal. However, appellant ultimately approved the longer reinforcements, and Golder's second design submittal was accepted by the Government. W2 was constructed based on the second design submittal.

Appellant's assertion that its design subcontractors were misled by the FIOQ as an "inaccurate estimate" during the design phase lacks merit. The design subcontractors testified that they did not consider the FIOQ as a constraint or limitation on their design efforts. They *did not testify* that they were misled by the FIOQ.

C. No Entitlement for Alleged Inaccurate Estimate or Defective Specification

We conclude that appellant cannot recover based on its assertion that the FIOQ was an inaccurate estimate or a defective specification, as appellant did not rely on the FIOQ when bidding and did not revise its bid to include the FIOQ after discovering its "bid bust." Appellant's design subcontractors viewed the FIOQ as a minimum requirement that could be exceeded and designed accordingly, resulting in a design in compliance with contract requirements.

D. No Entitlement for Breach of Implied Contractual Duties

Appellant presented extensive testimony during the hearing with regard to the detailed procedures and engineering decisions of its design subcontractors as they designed W2. Appellant argues that respondent had superior knowledge not revealed to appellant that W2 could have been designed using other engineering assumptions not specified in the contract. Appellant also asserts that unspecified actions resulted in respondent's failure to cooperate and a breach of good faith and fair dealing We do not find these arguments persuasive. Respondent presented expert testimony from its engineering expert, Mr. Boyle, who testified as to his opinion that W2 could have been designed within the parameters of the FIOQ if appellant's design contractors were more experienced with the software they had used. The conclusion we draw from this testimony is that any design is the result of the expertise and engineering choices of the designer. Whether W2 could have been designed differently

based on information not in the contract or engineering decisions by others with different expertise is not an issue for this Board to resolve and not relevant to the resolution of the appeal. Appellant ultimately produced a design acceptable to respondent and in compliance with contract requirements.

E. No Entitlement for Cardinal Change for W2 Construction

During construction of W2, appellant made no effort to count the quantities of excavation and backfill as they were put in place. After construction was concluded, appellant hired Otak to survey the area to determine the actual quantities of excavation and backfill. According to Mr. Schei, this was a "big eye opener." Appellant based its calculation of actual quantities on a survey conducted after construction. Respondent questioned the methodology and accuracy of the survey. Even so, the correctness of Otak's calculations of the actual quantities is not relevant to the resolution of this appeal.

Otak also performed an analysis and concluded that the contract contained an inaccurate calculation of the FIOQ in drawing M.20—based upon what Otak alleges were the Government's design assumptions—and, therefore, the FIOQ for excavation and backfill should have been greater. In response, the Government recalculated these quantities based on the original design assumptions and concluded that the FIOQ should have been three to nine percent less than those included in drawing M.20. Otak's challenge to the engineering assumptions used in calculating the FIOQ is not relevant, as appellant did not rely on the FIOQ in bidding or designing W2.

While we do not find that appellant is entitled to monetary relief, we review appellant's quantum submissions to emphasize inconsistencies in appellant's factual allegations and legal theories and address the issue of cardinal change.

After W2 was constructed, the parties exchanged detailed correspondence with regard to appellant's design and construction of W2. In this correspondence, appellant asserted that, although it ultimately designed and constructed W2, it was entitled to additional costs for excavation and backfill in excess of the FIOQ. The REA contained information about the actual quantity of wall surface square footage, which was four percent above the contract quantity specified in the bid schedule. While appellant's REA claim for increased wall surface square footage was deleted from its certified claim, it is relevant to appellant's assertion that the FIOQ resulted in a cardinal change. Appellant states:

> "A cardinal change is similar [to a constructive change], but has two distinguishing features: (1) a cardinal change requires work materially different from that specified in the contract, and (2) a cardinal change amounts

> to an actual breach of contract." *Bell/Heery v. U[nited States]*, 739 F.3d 1324, 1335 ([Fed. Cir.] 2014). . . . "A cardinal change . . . occurs when the government effects an alteration in the work so drastic that it effectively requires the contractor to perform duties materially different from those originally bargained for." *Ian, Evan & Alexander Corp[.] v. United States*, 136 Fed. Cl. 390, 415 (2018) ([quoting] *AT & T Comm[unications], Inc. v. Wiltel, Inc*., 1 F.3d 1201, 1205 ([Fed. Cir.] 1993)). . . . For the reasons stated above, the difference between the FIO Quantities for excavation and backfill, and the actual neat line quantities for the final design of the wall that was built, are so drastic as to constitute a cardinal change in the work (between 40% and 97% more). Appellant is entitled to damages in the amount of the costs required to perform the excess quantities.

APFFCL ¶¶ 226-28.

We conclude that there was no cardinal change. We have determined that the FIOQ was neither an inaccurate specification nor a defective specification. As appellant did not rely upon the FIOQ in its bid and its design subcontractors did not consider those quantities as a constraint on its design of W2, appellant's actual excavation and backfill quantities were the result of appellant's and its design subcontractors' decisions. The final W2 design, in compliance with contract requirements, resulted in only a four-percent increase in wall surface square footage, as a "contract quantity" for which the contractor was to be compensated. This increase in wall surface square footage did not result in a cardinal change, as the work was not altered so drastically that it effectively required appellant to perform duties materially different from those originally bargained for. *Ian, Evan & Alexander Corp.*, 136 Fed. Cl. at 415. By not including the cost of the FIOQ in its bid, and by considering the FIOQ as a minimum design requirement, appellant's assertion that it only bargained for work that did not exceed the FIOQ lacks merit.

F. Repricing of the Claim Does Not Support Entitlement

After the appeal was filed, appellant engaged an expert to reprice its claim. The expert utilized alleged actual material, labor, and equipment costs to price the FIOQ materials in excess of the FIOQ in drawing M.20. Appellant's expert did not rely on unit prices for similar bid items as appellant had done in its REA and certified claim. In so doing, appellant, through its expert, is acknowledging that the FIOQ were not unit-priced contract quantities to be paid.

Appellant's expert, a certified public accountant without engineering expertise, further stated in his report that there was an assumption that the FIOQ materials would increase

linearly with the increase in wall surface square footage. The expert did not state whether this was appellant's assumption or his own. This assumption of linear increase is contradicted by the factual information in appellant's REA that shows that the actual quantities for wall surface square footage increased by four percent while the FIOQ materials increased (as a result of appellant's design) by much greater percentages.

Conclusion

The record contains other issues and arguments raised by the parties. We have reviewed the entire record and only addressed those issues and arguments relevant to the resolution of the appeal. The facts of this appeal do not support appellant's legal theories as to entitlement or quantum.

Decision

The appeal is **DENIED**.

Allan H. Goodman
ALLAN H. GOODMAN
Board Judge

We concur:

H. Chuck Kullberg
H. CHUCK KULLBERG
Board Judge

Jonathan D. Zischkau
JONATHAN D. ZISCHKAU
Board Judge